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ROCKY FLATS PROJECT OFFICE
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GOLDEN, COLORADO 80403-8200
JUL 15 2004

04-DOE-00512

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Mr. Steven H. Gunderson
Rocky Flats Cleanup Agreement Project Coordinator
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80224-1530

Dear Mr. Gunderson:

Please find enclosed the Pre-Demolition Survey Reports (PDSR) for: (1) Building 881 first floor and the first floor mezzanine [DWF-033-04], and (2) Building 887 [DWF-035-04]. This is the official transmittal of those PDSRs, which were provided to the state in mid June and in the case of Building 887 followed up with a contact record dated July 1, 2004

Note that the Facility Disposition Rocky Flats Cleanup Agreement Standard Operating Protocol notification letter for Building 881 demolition, a type 2 facility, was processed earlier pending your approval of all PDSR's for the building as a whole. All surfaces meet the PDSP unrestricted release criteria.

Specific questions may be directed to Bruce Wallin at (303) 966-3096 on the survey data and methodology, or you may contact Gary Morgan at (303) 966-6003.

Sincerely,


Joseph C. Haycock

Joseph A. Legare, Director
RFPO Project Management

Enclosures

COR. CONTROL	X	X
ADMIN. RECORD	X	X
PATS/130		

Reviewed for Addressee
Corres. Control RFP

7/20/04 
Date By

Ref. Ltr. #

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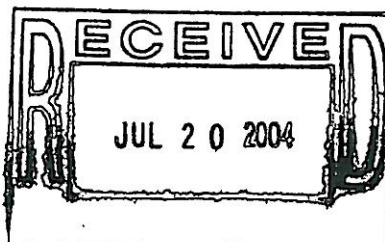
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G. Morgan, HCPM, RFPO
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C. Freiboth, K-H RISS D&D
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ADMIN RECORD

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CORRESPONDENCE
CONTROL

JUN 17 2004

04-RF-00616

Gary Morgan, Functional Lead
Cadre Project Management Division
DOE, RFPO

TRANSMITTAL OF THE BUILDING 887 - PRE-DEMOLITION SURVEY REPORT
(PDSR) - DWF-035-04

Provided for your review and approval is the enclosed subject report for the 887 facility. This report characterizes the physical, chemical and radiological hazards associated with this facility, summarizes the characterization activities, defines the Data Quality Objectives developed for this characterization, and presents the data quality assessment, verification and validation of results.

Based upon this PDSR and subject to concurrence by the CDPHE, this facility is considered to be RFCA Type 2 facilities pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999) and is acceptable for demolition. All areas and surfaces of this facility meet the PDSP unrestricted release criteria.

Please notify Kaiser-Hill when you transmit this document to CDPHE. If you have any questions, do not hesitate to call me or Duane Parsons at extension 6458.

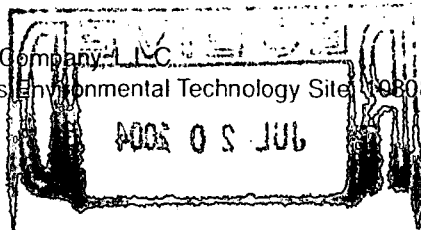
Dennis W. Ferrera
Vice President and Project Manager
Remediation, Industrial D&D and Site Services

DLP:pvt

Enclosure:
As Stated

Orig. and 1 cc - G. Morgan

Kaiser-Hill Company, Inc.
Rocky Flats Environmental Technology Site, 9808 Hwy. 93 Unit B, Golden, CO 80403-8200 • 303-966-7000



2



Rocky Flats Environmental Technology Site

PRE-DEMOLITION SURVEY REPORT (PDSR)

Building 887 Closure Project

VERSION 0

June 17, 2004

**CLASSIFICATION REVIEW NOT REQUIRED PER
EXEMPTION NUMBER CEX-005-02**

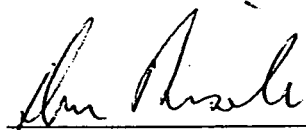
PRE-DEMOLITION SURVEY REPORT (PDSR)

Building 887 Closure Project

VERSION 0

June 17, 2004

Reviewed by:


Don Risoli, Quality Assurance

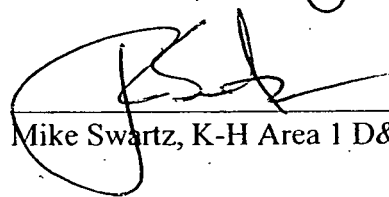
Date: 6/17/04

Reviewed by:


D.P. Snyder, RISS ESH&Q Manager

Date: 6/17/04

Approved by:


Mike Swartz, K-H Area 1 D&D Project Manager

Date: 6-17-04

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ABBREVIATIONS/ACRONYMS

ACM	Asbestos containing material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
DCGL _{EMC}	Derived Concentration Guideline Level – elevated measurement comparison
DCGL _w	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data quality assessment
DQOs	Data quality objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, ventilation, air conditioning
HSAR	Historical Site Assessment Report
HEUN	Highly Enriched Uranyl Nitrate
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBP	Lead-based paint
LLW	Low-level waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
NORM	Naturally occurring radioactive material
NRA	Non-Rad-Added Verification
OSHA	Occupational Safety and Health Administration
PARCC	Precision, accuracy, representativeness, comparability and completeness
PCBs	Polychlorinated Biphenyls
PDS	Pre-demolition survey
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSA	Removable Surface Activity
RSP	Radiological Safety Practices
SVOCs	Semi-volatile organic compounds
TCLP	Toxicity Characteristic Leaching Procedure
TSA	Total surface activity
VOCs	Volatile organic compounds

EXECUTIVE SUMMARY

A Pre-Demolition Survey (PDS) was performed to enable compliant disposition and waste management of Building 887. Because this Type 2 facility will be decommissioned, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP) to supplement the Reconnaissance Level Characterization of this Type 2 facility. Building surfaces characterized as part of this PDS included the floors, walls, ceilings, and roofs. Environmental media beneath and surrounding the facility was not within the scope of this PDS and will be addressed using the Soil Disturbance Permit process and in compliance with RFCA.

This PDS encompassed both radiological and chemical characterization to enable the compliant disposition and waste management pursuant to the D&D Characterization Protocol (MAN-077-DDCP). The characterization built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report and Reconnaissance Level Characterization Report.

Results indicate that no radiological or chemical contamination exists in excess of the PDSP unrestricted release limits. All PCB ballasts, and hazardous waste items (e.g., mercury thermostats, fluorescent light bulbs, mercury vapor light bulbs, mercury-containing gauges, circuit boards, leaded glass, and lead-acid batteries) have been removed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations. RCRA Storage Unit 887.2 secondary containment has been clean closed in accordance with the RCRA requirements as denoted in the RSOP Notification Letter for Component Removal, Size Reduction and Decontamination Activities for RCRA Unit 887.2 (May 28, 2002), therefore, meets the PDSP free release criteria. Asbestos abatement was conducted in Building 887 prior to the PDS. Friable and non-friable asbestos containing building materials were removed per CDPHE, Regulation No. 8, Part B, *Emission Standards for Asbestos*. PCBs in paint meet the unrestricted release criteria of the RSOP for Facility Disposition (specific to 40CFR 761.62c). All remaining Building 887 building materials are inert.

Based upon this PDSR, Building 887 can be demolished, with those portions of the building that will be three feet below final grade left in place. Appropriate approvals have been obtained for leaving portions of the facility in-place underground. Demolition concrete rubble can be used for backfill on-site per the RFCA Recycling Concrete RSOP. To ensure the facility remains free of contamination and PDS data remain valid, Level 1 Isolation Controls have been established and the areas posted accordingly.

1 INTRODUCTION

A Pre-Demolition Survey (PDS) was performed to enable compliant disposition and waste management of Building 887. Because this Type 2 facility will be decommissioned, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP) to supplement the Reconnaissance Level Characterization of this Type 2 facility. Building surfaces characterized as a part of this PDS included floors, walls and ceilings. The Building 887 exterior was characterized in accordance with Pre-Demolition Survey Plan (MAN-127-PDSP) requirements as part of the Building 881 Cluster RLCR, completed November 6, 2001. Environmental media beneath and surrounding the facility was not within the scope of this PDS and will be addressed using the Soil Disturbance Permit process and in compliance with RFCA.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed, among these is Building 887. The location of this facility is shown in Attachment A, *Facility Location Map*. This facility no longer support the RFETS mission and will be decommissioned to reduce Site infrastructure, risks and/or operating costs.

Before this Type 2 facility can be decommissioned, the Data Quality Objectives (DQOs) for a Pre-Demolition Survey (PDS) must be satisfied; this document presents the PDS results for Building 887. The PDS was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). The PDS is built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report and Reconnaissance Level Characterization Report.

1.1 Purpose

The purpose of this report is to communicate and document the results of the Building 887 PDS effort. A PDS is performed prior to building demolition to define the final radiological and chemical conditions of a facility. Final conditions are compared with the release limits for radiological and non-radiological contaminants. PDS results will enable project personnel to make final disposition decisions, develop related worker health and safety controls, and estimate waste volumes by waste types.

1.2 Scope

This report presents the final radiological and chemical conditions of Building 887. The PDS of Building 881 will be performed, documented, and approved in a stand-alone PDSR. Environmental media beneath and surrounding the facility is not within the scope of this PDSR and will be addressed using the Soil Disturbance Permit process and in compliance with RFCA.

1.3 Data Quality Objectives

The Data Quality Objectives (DQOs) used in designing this PDS were the same DQOs identified in the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). Refer to section 2.0 of MAN-127-PDSP for these DQOs.

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2 HISTORICAL SITE ASSESSMENT

A Facility-specific Historical Site Assessment (HSA) and a Reconnaissance Level Characterization (RLC) was conducted to understand the facility history and related hazards. The HSA consisted of facility walk-downs, interviews, and document review, including review of the Historical Release Report, and were used to design the RLC. The RLC for Building 887 was performed in FY 2002 as part of the Building 881 Cluster RLCR (refer to *Reconnaissance Level Characterization Report for the Building 881 Cluster*, dated November 6, 2001, Revision 0). Based on the RLC results, Building 887 was classified as a Type 2 facility, therefore, PDS characterization was required before decommissioning of the facility. The HSA and RLC results were used to identify PDS data gaps and needs, and to develop radiological and chemical PDS characterization packages. HSA and RLC documentation are located in the RISS Characterization Project files.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

3.1 In-Process Strip-out and Decontamination

Radiological contamination was identified during the RLC, as well as, during the in-process stripout and decontamination phase in Building 887. Thus, extensive stripout and decontamination was required prior to the PDS. All potentially contaminated equipment and system piping were removed from the building prior to PDS. After stripout and decontamination was completed, the areas were cleaned, isolated and re-surveyed prior to turnover to the PDS Team.

3.2 Transuranic Versus and Uranium Activity Areas

Based on the RLC data and historical and process knowledge, transuranic and uranium activity were both identified as a concern inside Building 887. Therefore, in-process media sampling was performed to determine the transuranic and uranium areas of concern. Biased and random media samples were collected throughout the building and were isotopically analyzed for transuranic and uranium contamination. Based on the isotopic media sample results, Building 887 was initially classified as a transuranic area of concern. However, after equipment strip-out and surface decontamination was performed, additional isotopic media sampling was conducted. The re-sample results for Room 1, Room 2, the stairwells, and the walls greater than four feet and ceilings in Rooms 3 and 4 were less than the transuranic PDS unrestricted release criteria, therefore, these areas were re-classified as uranium areas and surveyed to the uranium PDS unrestricted release criteria. The areas that remained transuranic areas were the floors and walls below four feet in Rooms 3 and 4. Refer to Attachment B-1, *Media Sample Results Table and Sample Location Map*, for the "as left" media sample results and the sample locations.

3.3 Building 887 Confirmatory Surveys (Exterior & Interior)

Building 887 exterior was surveyed per PDS requirements as part of the *Reconnaissance Level Characterization Report for the Building 881 Cluster*, dated November 6, 2001, and met PDS unrestricted release levels. An additional confirmatory survey of the Building 887 exterior was performed during the PDS survey, and all results were less than the PDS unrestricted release levels. A confirmatory survey of the Building 887 interior was also performed after the PDS survey, and all results were less than the PDS unrestricted release levels. Refer to Attachment B-2, *887 Confirmatory Surveys, Radiological Data and Survey Maps* for the building exterior and interior confirmatory radiological survey data, survey locations, and radiological maps.

3.4 PDS Planning and Preparation

Building 887 was characterized for radiological hazards per the PDSP. Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on the facility surfaces. Measurements were performed to evaluate the contaminants of concern. Based upon a review of historical and process knowledge, building walk-downs, and MARSSIM guidance, a Radiological Characterization Plan was developed during the planning phase that describes the minimum survey requirements (refer to the RISS Characterization Project files for the Building 887 Radiological Characterization Plan). Individual radiological survey unit packages are maintained in the RISS Characterization Project files.

Two radiological survey unit packages were developed for Buildings 887: 887001 and 887002. Refer to Attachment B-3, *887 Survey Unit Map* for the locations of these survey units. The survey unit packages were developed in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure*. Total surface activity (TSA), removable surface activity (RSA), and scan measurements were collected in accordance with RSP 16.02 *Radiological Surveys of Surfaces and Structures*. Radiological survey data were verified, validated and evaluated in accordance with RSP 16.04, *Radiological Survey/Sample Data Analysis*. Quality control measures were implemented relative to the survey process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control*. Individual radiological survey unit packages are maintained in the RISS Characterization Project files.

3.5 PDS Survey Results

The table below summarizes the PDS radiological survey data by Survey Unit:

Building 887 PDS Radiological Summary Survey Table

Survey Unit	Description	MARSSIM Class	Number of TSA Surveys	Number of RSA Surveys	Percent Scanned (alpha)	Survey Unit Class Justification	Survey Results
887001	887 Interior, Rooms 3 and 4, floors and walls < 4 ft.	1	23 – systematically grid, 2 – QC	23 – systematically grid	100% scan of all surfaces (194 m ²)	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .	All surveys and scans were less than the PDS unrestricted release levels.
887002	887 Class 2 areas	2	17 – systematically grid, 2 – QC	17 – systematically grid	50% of all surfaces (243 m ² minimum) at biased locations	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGL _w .	All surveys and scans were less than the PDS unrestricted release levels.

All final “as left” PDS radiological survey results were less than the applicable PDSP unrestricted release limits. Radiological survey unit data, statistical analysis results, survey locations and radiological scan maps are presented in Attachment B-4 *Radiological Survey Unit Data Summary and Survey Maps*. To ensure the facility remains free of further contamination and PDS data remain valid, Level 1-Isolation Controls have been established and the areas posted accordingly.

4 CHEMICAL CHARACTERIZATION AND HAZARDS

Building 887 was characterized for chemical hazards per the PDSP. Chemical characterization was performed to determine the nature and extent of chemical contamination that may be present on, or in the facility. Based upon a review of historical and process knowledge, visual inspections, and PDSP DQOs, additional sampling needs were determined. A Chemical Characterization Plan was developed during the planning phase that describes sampling requirements and the justification for the sample locations and estimated sample numbers. The contaminants of concern were asbestos, beryllium, and RCRA constituents. Refer to Attachment C, *Chemical Summary Data and Sample Maps*, for details on sample results and sample locations. Isolation control postings are displayed on affected structures to ensure no hazardous materials are introduced.

4.1 Asbestos

A survey of building materials suspected of containing asbestos was conducted during in-process stripout of the facility. A CDPHE-certified asbestos inspector conducted the inspections and sampling in accordance with the *Asbestos Characterization Protocol, PRO-563-ACPR, Revision 1*. Building materials suspected of containing asbestos were identified for sampling at the discretion of the inspector. Prior to the PDS, friable and non-friable asbestos abatement and satisfactory clearance sampling was conducted per CDPHE, Regulation No. 8, Part B, *Emission Standards for Asbestos*. On this basis, no additional asbestos sampling was required or performed as part of this PDS.

4.2 Beryllium (Be)

During the in-process strip-out and decontamination phase of the Building 887 project, all areas containing loose beryllium contamination were decontaminated to below the unrestricted release limit of $0.2 \mu\text{g}/100\text{cm}^2$. The use of fixatives was not necessary to decontaminate the areas below the unrestricted release limit. Since Building 887 was on the list of Known Beryllium Areas, both random and biased PDS sampling was required. Once the areas were de-posted from beryllium controls and the areas were isolated from adjacent work areas, random beryllium PDS swipes were collected. In addition to the random PDS swipes, 23 biased, in-process, de-posting beryllium swipes are also included in the below PDS Beryllium Results Summary Table, as biased swipe data.

Random and biased beryllium smear samples were collected in Building 887 in accordance with the PDSP and the *Beryllium Characterization Procedure*, PRO-536-BCPR, Revision 0, September 9, 1999. The table below summarizes the "as left" PDS beryllium swipe data for Building 887. All beryllium PDS swipe results were less than the action levels of $0.2 \mu\text{g}/100\text{cm}^2$ and $0.1 \mu\text{g}/100\text{cm}^2$. Detailed PDS beryllium laboratory swipe data and location maps are contained in Attachment C-1, *PDS Beryllium Data Summary and Sample Maps*. Detailed in-process biased beryllium laboratory swipe data are contained in Attachment C-2, *In-process Biased Beryllium Data*.

887 PDS Beryllium Summary Table

Beryllium Area	Random Swipes Required	Random Swipes Collected	Biased Swipes Collected	Swipes Results
887	13	13	0	All swipe results below PDS action levels
In-process - 887	0	0	23	All swipe results below PDS action levels
Totals	13	13	23	All swipe results below PDS action levels

4.3 RCRA/CERCLA Constituents [including metals and volatile organic compounds (VOCs)]

Based on a review of the HSAR, RLCR, interviews, facility walk-downs, and a review of RCRA unit area inspection forms, Building 887 was identified as RCRA permitted facility Unit 887.2, and may have been contaminated by RCRA/CERCLA constituents. Records indicate there were chemical releases to the secondary containment (i.e., the building floor).

Building 887 under went RCRA Closure for Unit 887.2 in accordance with the RSOP Component Removal, Decontamination and Size Reduction Activities Notification Letter approved by CDPHE on May 28, 2002. However, based on the initial rinsate sampling conducted, clean closure for the secondary containment was not achieved for mercury (refer to Attachment C-3 for the first rinsate results). An additional rinsing was performed and all results met clean closure for mercury (refer to metal rinsate results in Attachment C-3). All of the tanks and ancillary equipment were removed and managed as LLM waste.

The facility contained some RCRA regulated items, such as mercury thermostats, fluorescent light bulbs, mercury vapor light bulbs, mercury containing gauges, circuit boards, and lead-acid batteries. However, these items have been removed and managed in accordance with the Colorado Hazardous Waste Act.

4.4 Polychlorinated Biphenyls (PCBs)

Based on the HSAR, RLCR, interviews, and facility walk-downs of Building 887, no PCB-containing equipment was ever used or stored in the buildings, making the potential for PCB contamination resulting from spills highly unlikely. Therefore, PCB sampling was not performed as part of the PDS.

Demolition concrete rubble will be used for backfill on-site per the RFCA Recycling Concrete RSOP. This concrete rubble material meets the unrestricted release criteria of the RSOP for Facility Disposition (specific to 40CFR 761.62c). All remaining Building 887 building materials are inert.

The facility contained PCB fluorescent light ballasts, however, all ballasts have been removed from the facility and managed in accordance with the Colorado Hazardous Waste Act.

5 PHYSICAL HAZARDS

Physical hazards associated with Building 887 are those common to standard industrial environments, and include hazards associated with energized systems, utilities, and trips and falls. Most of Building 887 is underground and heavy equipment operators should be cautious of the underground rooms during demolition. There are no other unique hazards associated with the facility. The facility has been relatively well maintained and is in good physical condition, therefore, does not present hazards associated with building deterioration. Physical hazards are controlled by the Site Occupational Safety and Industrial Hygiene Program, which is based on OSHA regulations, DOE orders, and standard industry practices.

6 DATA QUALITY ASSESSMENT

Data used in making management decisions for the decommissioning of Building 887, and consequent waste management, are of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments B and C) were verified and validated relative to DOE quality requirements, applicable EPA guidance, and original project DQOs.

In summary, the Verification and Validation (V&V) process corroborates that the following elements of the characterization process are adequate:

- ◆ the *number* of samples and surveys;
- the *types* of samples and surveys;
- the sampling/survey process as implemented "in the field"; and
- ◆ the laboratory analytical process, relative to accuracy and precision considerations.

Details of the DQA are provided in Attachment D.

7 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The decommissioning of Building 887 will generate some sanitary waste. Estimated waste volumes are presented below. All ballasts and hazardous waste items have been removed and managed pursuant to Site PCB and waste management procedures. Demolition concrete rubble will be used for backfill on-site per the RFCA Recycling Concrete RSOP.

WASTE TYPES AND VOLUME ESTIMATES							
Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste (cu ft)
887	0	0	10	0	0	0	Built-up Roofing Material - 360

8 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, Building 887 is classified as RFCA Type 2 facility pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999) and is ready for demolition. Building 887 does not possess radiological or chemical contamination in excess of the PDSP unrestricted release limits. All PCB ballasts (and hazardous waste items (e.g., mercury thermostats, fluorescent light bulbs, mercury vapor light bulbs, mercury-containing gauges, circuit boards, leaded glass, and lead-acid batteries) have been removed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations. Asbestos abatement was conducted in Building 887 prior to the PDS. Friable and non-friable asbestos containing building materials were removed per CDPHE, Regulation No. 8, Part B, *Emission Standards for Asbestos*.

The PDS for Building 887 was performed in accordance with the DDCP and PDSP, all PDSP DQOs were met, and all data satisfied the PDSP DQA criteria. Environmental media beneath and surrounding the facility will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA. To ensure Building 887 remains free of contamination and PDS data remain valid, Level 1 Isolation Controls have been established and the facility posted accordingly.

9 REFERENCES











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- MAN-131-QAPM, *Kaiser-Hill Team Quality Assurance Program*, Rev. 1, November 1, 2001.
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- MAN-077-DDCP, *Decontamination and Decommissioning Characterization Protocol*, Rev. 4, July 15, 2002.
- MAN-127-PDSP, *Pre-Demolition Survey Plan for D&D Facilities*, Rev. 1, July 15, 2002.
- MARSSIM - *Multi-Agency Radiation Survey and Site Investigation Manual* (NUREG-1575, EPA 402-R-97-016).
- PRO-475-RSP-16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation, and Closure*, Rev. 1, May 22, 2001.
- PRO-476-RSP-16.02, *Pre-Demolition (Final Status) Radiological Surveys of Surfaces and Structures*, Rev. 1, May 22, 2001.
- PRO-477-RSP-16.03, *Radiological Samples of Building Media*, Rev. 1, May 22, 2001.
- PRO-478-RSP-16.04, *Radiological Survey/Sample Data Analysis for Final Status Survey*, Rev. 1, May 22, 2001.
- PRO-479-RSP-16.05, *Radiological Survey/Sample Quality Control for Final Status Survey*, Rev. 1, May 22, 2001.
- PRO-563-ACPR, *Asbestos Characterization Procedure*, Revision 0, August 24, 1999.
- PRO-536-BCPR, *Beryllium Characterization Procedure*, Revision 0, August 24, 1999.
- RFETS, *Environmental Waste Compliance Guidance #25, Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition*.
- RFETS, *Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal*.
- RFETS, *RFCA RSOP for Recycling Concrete*, September 28, 1999
- Reconnaissance Level Characterization Report for the Building 881 Cluster*, dated November 6, 2001, Revision 0

ATTACHMENT A

Facility Location Map

Building 887

Map Features

-  Buildings Remaining
-  D&D Facility
-  Paved Roads
-  Dirt Roads
-  Lakes
-  Streams
-  Railroad Removed
-  Railroad Remaining
-  Fence Removed
-  Fence Remaining



1:7,200
1 inch equals 150 feet
Site Plans Complete Inspection
Colorado Code 201.16
Date: 10/2/01

U.S. Department of Energy
Rocky Flats Environmental Technology Site

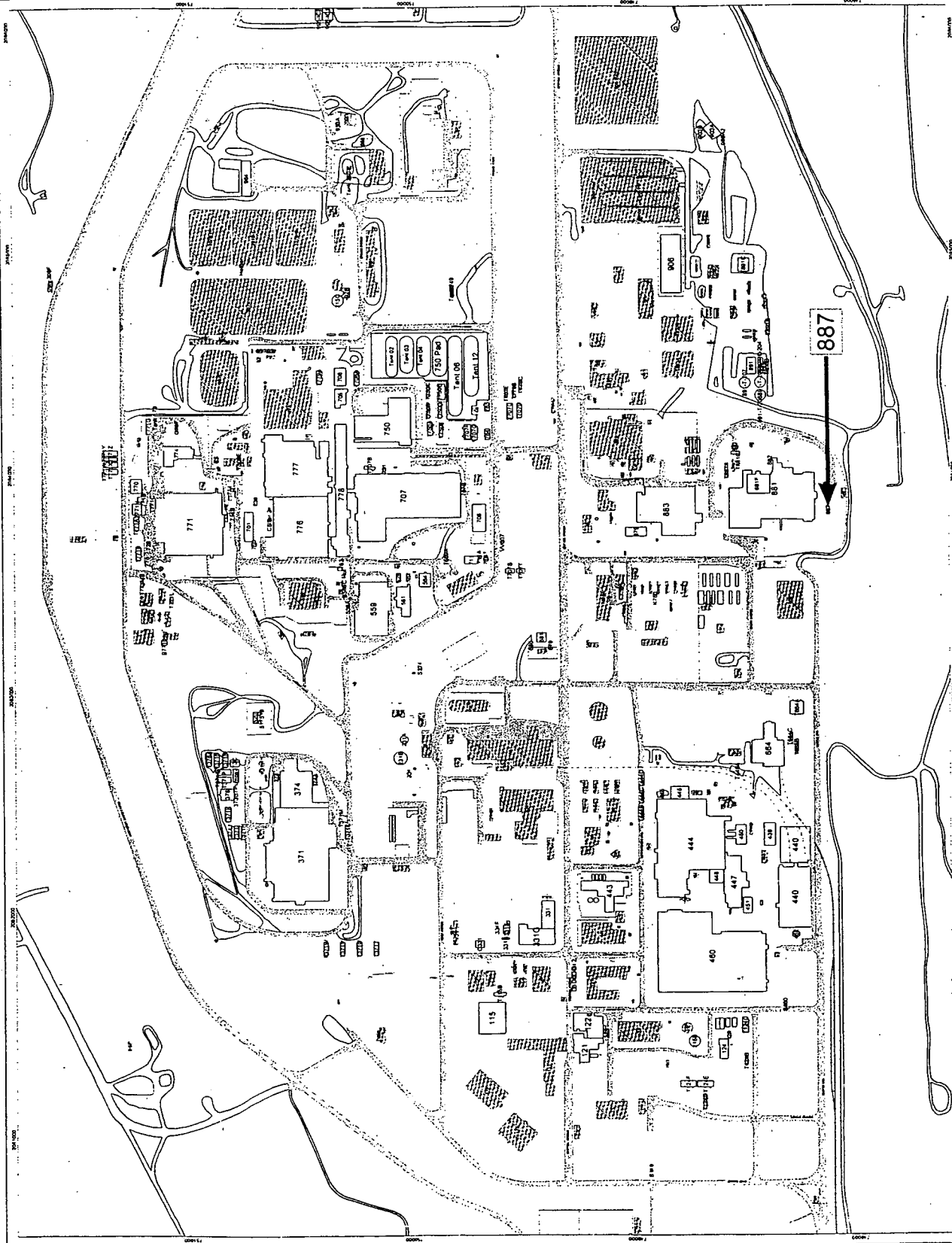
GS Des. (D) 968-7107

Prepared by

CH2M HILL

Rocky Flats

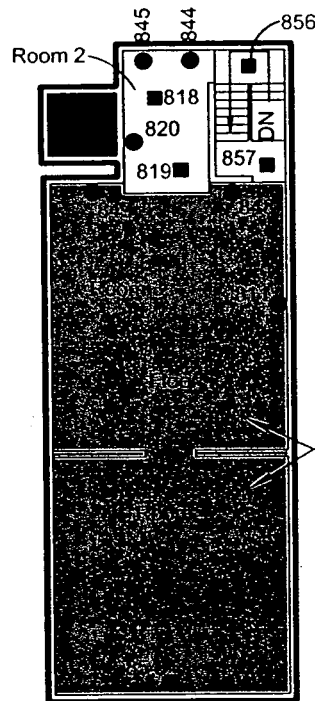
Building 887



ATTACHMENT B-1

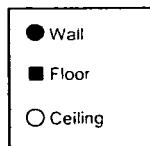
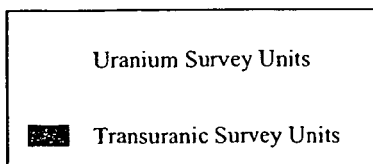
Media Sample Results Table and Sample Location Map

Media Sample Map



Transuranic area only applies to
Rooms 3 & 4 floor four feet and below.
Areas above four feet are uranium areas.

Building 887



Building 887
Paint Sample Results Table

Map Location	Room	Location Description	Uranium Result (dpm/100cm2)	Transuranic Result (dpm/100cm2)
811	B887	Wall 4'	2,970.2	0.0
818	B887	Floor	3,629.0	0.0
819	B887	Floor	3,700.7	0.0
820	B887	Wall 2'	1,289.2	50.7
844	MEZ 887	Wall 3'	3,437.2	0.0
845	MEZ 887	Wall 3'	3,437.2	0.0
848	B887 Rm3	Wall 4'	4,210.0	0.0
849	B887 Rm3	Wall 4'	2,587.5	80.7
854	B887Rm4	Wall 3'	2,318.6	29.1
856	B887 Mezz level	Stairwell	3,330.9	0.0
857	B887 Upper level	Stairwell	115.0	0.0

ATTACHMENT B-2

887 Confirmatory Surveys, Radiological Data and Survey Map

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Ebeline	Mfg.	NE Electra	Mfg.	NE Electra
Model	SAC 4	Model	DP-6	Model	DP-6
Serial #	830	Serial #	N/A	Serial #	1518
Cal Due	10/30/04	Cal Due	N/A	Cal Due	12/2/04
Bkg	0.4 cpm α	Bkg	N/A cpm α	Bkg	4.0 cpm α
Efficiency	33.00 %	Efficiency	N/A %	Efficiency	21.70 %
MDA	20 dpm α	MDA	##### dpm α	MDA	55 dpm α

Survey Tracking # N/A

Survey Type: Contamination

Building: 887

Location: Inner and Exterior Walls and Floor of B887

Purpose: Pre-Demolition Verification Survey

RWP #: N/A

Date: 6/7/04

Time: 1100

Mfg.	Eberline	Mfg.	NE Electra	Mfg.	NE Electra
Model	BC 4	Model	DP-6	Model	DP-6
Serial #	N/A	Serial #	N/A	Serial #	1518
Cal Due	N/A	Cal Due	N/A	Cal Due	12/2/04
Bkg	N/A cpm β	Bkg	N/A cpm β	Bkg	855.0 cpm β
Efficiency	N/A %	Efficiency	N/A %	Efficiency	30.70 %
MDA	205 dpm β	MDA	##### dpm β	MDA	452 dpm β

PRN/REN #: N/A

Comments: Nuclides of concern are Uranium and Plutonium. Survey performed to verify contamination levels prior to demolition of 887. Performed swipe of floors and walls in B887.

SURVEY RESULTS

COPY

#	LOCATION	ALPHA		BETA			
		Swipe	Direct	Wipe	Swipe	Direct	Wipe
		dpm/100cm ²	dpm/100cm ²	dpm/wipe	dpm/100cm ²	dpm/100cm ²	dpm/wipe
1	Top Level Floor	<20	N/A	<55	N/A	N/A	N/A
2	Top Level Floor	<20	N/A	N/A	N/A	N/A	N/A
3	Stairs	<20	N/A	N/A	N/A	N/A	N/A
4	Stair well Landing Floor	<20	N/A	<55	N/A	N/A	N/A
5	Mezz. Floor	<20	N/A	N/A	N/A	N/A	N/A
6	Mezz. Floor	<20	N/A	N/A	N/A	N/A	N/A
7	Stairs	<20	N/A	N/A	N/A	N/A	N/A
8	Floor	<20	N/A	N/A	N/A	N/A	N/A
9	Floor	<20	N/A	<55	N/A	N/A	N/A
10	Floor	<20	N/A	N/A	N/A	N/A	N/A
11	Floor	<20	N/A	N/A	N/A	N/A	N/A
12	Floor	<20	N/A	N/A	N/A	N/A	N/A
13	Floor	<20	N/A	N/A	N/A	N/A	N/A
14	Floor	<20	N/A	N/A	N/A	N/A	N/A
15	Interior Wall	<20	N/A	N/A	N/A	N/A	N/A
16	Floor	<20	N/A	N/A	N/A	N/A	N/A
17	Floor	<20	N/A	<55	N/A	N/A	N/A
18	Interior Wall	<20	N/A	N/A	N/A	N/A	N/A
19	Floor	<20	N/A	N/A	N/A	N/A	N/A
20	Floor	<20	N/A	N/A	N/A	N/A	N/A

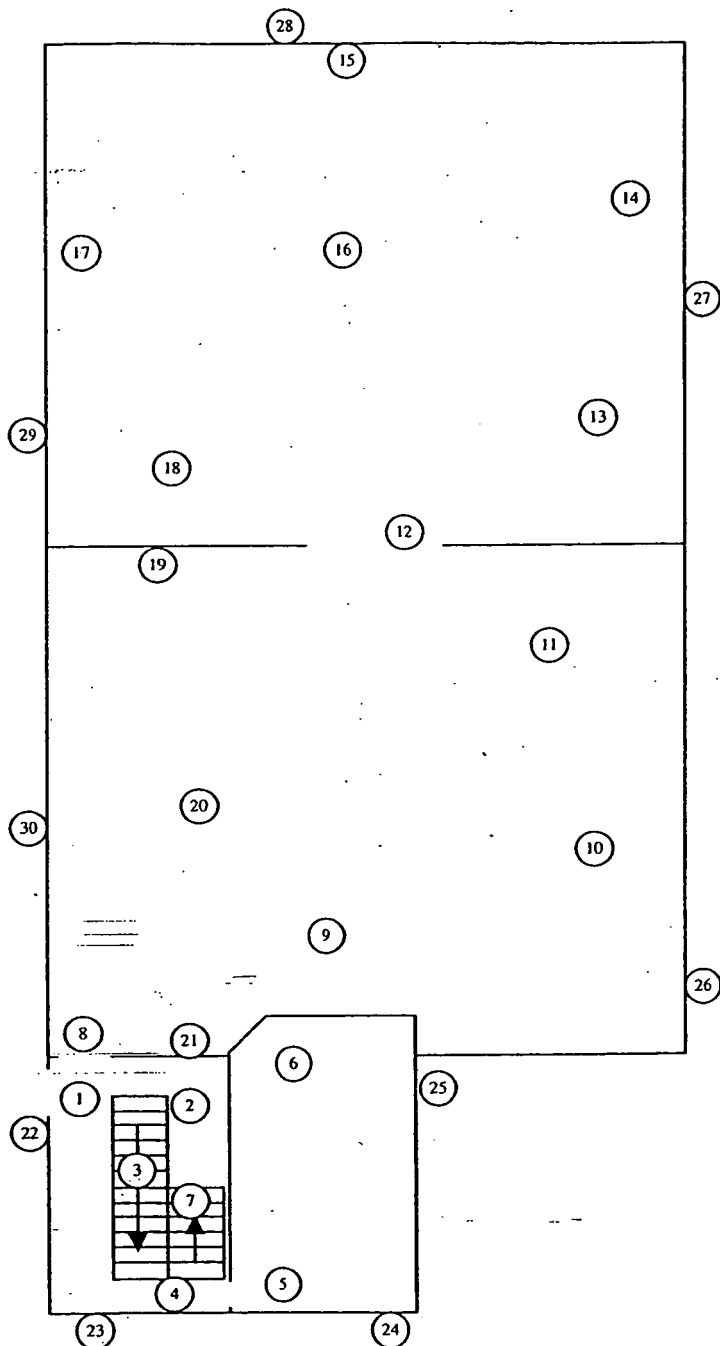
Date Reviewed: 6/7/04 RS Supervision:

SURVEY RESULTS

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COPY

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE



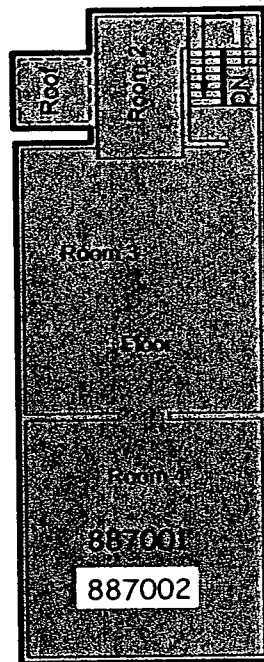
ATTACHMENT B-3

887 Survey Unit Map


Survey Units



Building 887



Legend:

-  Color area indicate the survey unit boundaries
- xxxxxx Six digit characters designate survey unit ID.
- xxxxxx Six digit characters with white background designate survey unit ID, walls, ceilings, & columns.

ATTACHMENT B-4

Radiological Data Summaries and Survey Maps

Survey Area: 0

Survey Unit: 887001

Building: 887

Description: Building 887, Management Unit 0, Rooms 3 & 4 floors and Walls <4 feet

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 17

Nbr Biased Measurements Required: 0

Nbr QC Required: 2

Nbr Random Measurements Performed: 23

Nbr Biased Measurements Performed: 0

Nbr QC Performed: 2

Alpha

Maximum: 55.3 dpm/100cm²Minimum: 8.8 dpm/100cm²Mean: 30.7 dpm/100cm²

Standard Deviation: 14.5

QC Maximum: 66.7 dpm/100cm²QC Minimum: 23.5 dpm/100cm²QC Mean: 45.1 dpm/100cm²Transuranic DCGL_w: 100.0 dpm/100cm²Transuranic DCGL_{EMC}: 300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 17

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 23

Nbr Biased Measurements Performed: 0

Alpha

Maximum: 1.5 dpm/100cm²Minimum: -1.5 dpm/100cm²Mean: -1.2 dpm/100cm²

Standard Deviation: 0.8

Transuranic DCGL_w: 20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

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Survey Area: 0

Survey Unit: 887001

Building: 887

Description: Building 887 Management Unit 0 Rooms 3 & 4 floors and Walls <4 feet

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	711447	05/23/04	Electra	1241	DP-8	10/06/04	0.193	NA	48.0	NA	S
2	712193	05/23/04	Electra	2404	DP-8	10/08/04	0.162	NA	48.0	NA	S
3	711449	05/23/04	Electra	659	DP-8	06/10/04	0.164	NA	48.0	NA	S
4	711746	05/23/04	Electra	657	DP-8	06/29/04	0.187	NA	48.0	NA	S
5	702567	05/23/04	Electra	658	DP-8	06/04/04	0.168	NA	48.0	NA	S
6	702567	05/23/04	Electra	667	DP-6	10/22/04	0.222	NA	48.0	NA	S
7	702575	05/23/04	Electra	681	DP-8	06/29/04	0.151	NA	48.0	NA	S
8	712193	05/23/04	Electra	1672	DP-6	10/22/04	0.215	NA	48.0	NA	T/S
9	711447	05/23/04	SAC-4	830	NA	10/30/04	0.330	NA	10.0	NA	R
10	702575	05/24/04	Electra	658	DP-8	06/04/04	0.168	NA	48.0	NA	S
11	702567	05/24/04	Electra	2404	DP-8	10/08/04	0.162	NA	48.0	NA	S
12	702567	05/24/04	Electra	1260	DP-6	11/20/04	0.225	NA	48.0	NA	S
13	702575	05/24/04	Electra	1672	DP-6	10/22/04	0.215	NA	48.0	NA	S
14	903346	05/24/04	Electra	667	DP-6	10/22/04	0.222	NA	48.0	NA	S
15	702567	05/25/04	Electra	667	DP-6	10/22/04	0.222	NA	48.0	NA	S
16	903346	05/25/04	Electra	1260	DP-6	10/20/04	0.225	NA	48.0	NA	S
17	903346	05/26/04	Electra	667	DP-6	10/22/04	0.222	NA	48.0	NA	S
18	702567	05/27/04	Electra	1681	DP-6	10/07/04	0.212	NA	48.0	NA	S
19	903346	05/27/04	Electra	1672	DP-6	10/22/04	0.215	NA	48.0	NA	Q/S
20	702567	05/28/04	Electra	1681	DP-6	10/07/04	0.212	NA	48.0	NA	S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: O

Survey Unit: 887001

Building: 887

Description: Building 887, Management Unit O, Rooms 3 & 4 floors and Walls <4 feet

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
887001PRP-N001	9	-1.5	N/A	
887001PRP-N002	9	-1.5	N/A	
887001PRP-N003	9	-1.5	N/A	
887001PRP-N004	9	-1.5	N/A	
887001PRP-N005	9	-1.5	N/A	
887001PRP-N006	9	-1.5	N/A	
887001PRP-N007	9	-0.0	N/A	
887001PRP-N008	9	-1.5	N/A	
887001PRP-N009	9	-1.5	N/A	
887001PRP-N010	9	-1.5	N/A	
887001PRP-N011	9	-1.5	N/A	
887001PRP-N012	9	-1.5	N/A	
887001PRP-N013	9	-1.5	N/A	
887001PRP-N014	9	-1.5	N/A	
887001PRP-N015	9	-1.5	N/A	
887001PRP-N016	9	1.5	N/A	
887001PRP-N017	9	-1.5	N/A	
887001PRP-N018	9	-1.5	N/A	
887001PRP-N019	9	-1.5	N/A	
887001PRP-N020	9	-0.0	N/A	
887001PRP-N021	9	-0.0	N/A	
887001PRP-N022	9	-1.5	N/A	
887001PRP-N023	9	-1.5	N/A	

Comments:

Survey Area: 0

Survey Unit: 887001

Building: 887

Description: Building 887 Management Unit 0 Rooms 3 & 4 floors and Walls <4 feet

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
887001PRP-N001	8	33.9	N/A	
887001PRP-N002	8	27.4	N/A	
887001PRP-N003	8	30.6	N/A	
887001PRP-N004	8	15.3	N/A	
887001PRP-N005	8	19.9	N/A	
887001PRP-N006	8	43.2	N/A	
887001PRP-N007	8	50.6	N/A	
887001QRP-N007	19	23.5	N/A	
887001PRP-N008	8	22.7	N/A	
887001PRP-N009	8	21.3	N/A	
887001PRP-N010	8	55.3	N/A	
887001PRP-N011	8	55.3	N/A	
887001PRP-N012	8	43.2	N/A	
887001PRP-N013	8	12.0	N/A	
887001PRP-N014	8	36.7	N/A	
887001PRP-N015	8	33.9	N/A	
887001PRP-N016	8	15.3	N/A	
887001PRP-N017	8	24.6	N/A	
887001PRP-N018	8	52.5	N/A	
887001QRP-N018	19	66.7	N/A	
887001PRP-N019	8	43.2	N/A	
887001PRP-N020	8	15.3	N/A	
887001PRP-N021	8	18.1	N/A	
887001PRP-N022	8	27.4	N/A	
887001PRP-N023	8	8.8	N/A	

Comments:

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Page: 4 of 4

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Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15
Nbr Biased Measurements Required: 0
Nbr QC Required: 2
Nbr Random Measurements Performed: 17
Nbr Biased Measurements Performed: 0
Nbr QC Performed: 2

Alpha

Maximum: 72.9 dpm/100cm²
Minimum: -3.7 dpm/100cm²
Mean: 31.6 dpm/100cm²
Standard Deviation: 20.5
QC Maximum: 216.3 dpm/100cm²
QC Minimum: -7.0 dpm/100cm²
QC Mean: 104.6 dpm/100cm²
Uranium DCGLW: 5,000.0 dpm/100cm²
Uranium DCGLMC: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15
Nbr Biased Measurements Required: 0
Nbr Random Measurements Performed: 17
Nbr Biased Measurements Performed: 0

Alpha

Maximum: 5.8 dpm/100cm²
Minimum: -0.3 dpm/100cm²
Mean: 1.7 dpm/100cm²
Standard Deviation: 2.4
Uranium DCGLW: 1,000.0

Media Sample Results

Nbr Random Required: 0
Nbr Biased Required: 0
Nbr Random Collected: 0
Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: 0	Survey Unit: 887002	Building: 887
Description: Building 887, Class 2 Areas		

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	702567	05/24/04	Electra	1241	DP-8	10/06/04	0.193	NA	93.0	NA	S
2	702567	05/24/04	Electra	663	DP-6	09/18/04	0.218	NA	93.0	NA	S
3	702575	05/24/04	Electra	667	DP-6	10/22/04	0.222	NA	93.0	NA	T/S
4	711447	05/25/04	Electra	658	DP-8	06/04/04	0.168	NA	93.0	NA	S
5	702567	05/25/04	Electra	1366	DP-6	10/14/04	0.203	NA	93.0	NA	S
6	711447	05/26/04	Electra	1366	DP-6	10/14/04	0.203	NA	93.0	NA	S
7	712193	05/27/04	SAC-4	830	NA	10/30/04	0.330	NA	16.0	NA	R
8	712193	05/27/04	Electra	1672	DP-6	10/22/04	0.215	NA	93.0	NA	S
9	702567	05/28/04	Electra	1672	DP-6	10/22/04	0.215	NA	93.0	NA	Q/S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 0

Survey Unit: 887002

Building: 887

Description: Building 887- Class 2 Areas

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
887002PRP-N001	7	-0.3	N/A	
887002PRP-N002	7	-0.3	N/A	
887002PRP-N003	7	2.7	N/A	
887002PRP-N004	7	2.7	N/A	
887002PRP-N005	7	-0.3	N/A	
887002PRP-N006	7	-0.3	N/A	
887002PRP-N007	7	-0.3	N/A	
887002PRP-N008	7	2.7	N/A	
887002PRP-N009	7	-0.3	N/A	
887002PRP-N010	7	-0.3	N/A	
887002PRP-N011	7	-0.3	N/A	
887002PRP-N012	7	2.7	N/A	
887002PRP-N013	7	5.8	N/A	
887002PRP-N014	7	5.8	N/A	
887002PRP-N015	7	-0.3	N/A	
887002PRP-N016	7	5.8	N/A	
887002PRP-N017	7	2.7	N/A	

Comments:

Survey Area: 0

Survey Unit: 887002

Building: 887

Description: Building 887 Class 2 Areas

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
887002PRP-N001	3	23.3	N/A	
887002PRP-N002	3	36.9	N/A	
887002PRP-N003	3	63.9	N/A	
887002PRP-N004	3	18.8	N/A	
887002QRP-N004	9	-7.0	N/A	
887002PRP-N005	3	27.9	N/A	
887002PRP-N006	3	18.8	N/A	
887002PRP-N007	3	18.8	N/A	
887002PRP-N008	3	23.3	N/A	
887002PRP-N009	3	9.8	N/A	
887002PRP-N010	3	18.8	N/A	
887002PRP-N011	3	72.9	N/A	
887002QRP-N011	9	216.3	N/A	
887002PRP-N012	3	32.4	N/A	
887002PRP-N013	3	18.8	N/A	
887002PRP-N014	3	-3.7	N/A	
887002PRP-N015	3	54.9	N/A	
887002PRP-N016	3	45.9	N/A	
887002PRP-N017	3	54.9	N/A	

Comments:

ATTACHMENT C-1

PDSR Beryllium Data Summaries and Sample Maps

Sample Map Location #	Room	RIN	Sample Number	Sample Location	Result (ug/100 cm2)
1	1	04D0797	887-05222004-313-001	On concrete floor, random	< 0.1
2	4	04D0797	887-05222004-313-002	On concrete floor, random	< 0.1
3	4	04D0797	887-05222004-313-002	On concrete floor, random	< 0.1
4	3	04Z1317	887-03052004-26-002	On concrete floor, random	< 0.1
5	4	04D0797	887-05222004-313-005	On concrete floor, random	< 0.1
6	3	04Z1317	887-03052004-26-009	On concrete floor, random	< 0.1
7	1	04D0797	887-05222004-313-007	On concrete floor, random	< 0.1
8	Stairwell	04D0797	887-05222004-313-008	On stairwell landing, random	< 0.1
9	3	04D0797	887-05222004-313-009	On concrete floor, random	< 0.1
10	3	04D0797	887-05222004-313-010	On concrete floor, random	< 0.1
11	Stairwell	04D0797	887-05222004-313-011	On stair step, random	< 0.1
12	3	04Z1317	887-03052004-26-010	On concrete floor, random	< 0.1
13	2	04Z1317	887-03052004-26-003	On concrete floor, random	< 0.1

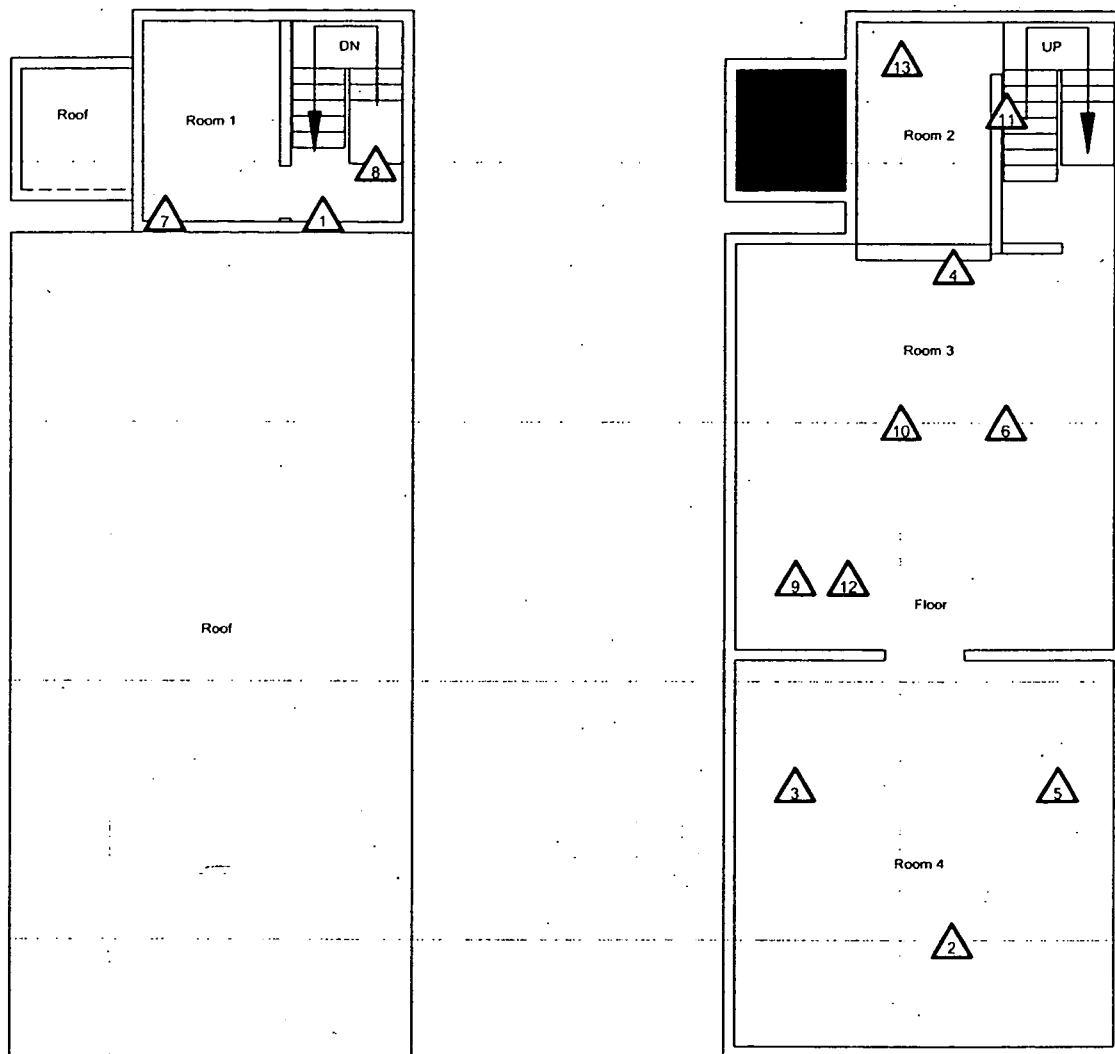
Footnotes:

(1): Only the final "as left" condition sample results are reported in the above table. Any areas requiring decontamination were cleaned, resurveyed and reported above.

CHEMICAL SAMPLE MAP

Building 887 Beryllium
Floor Area = 141 sq. m. = 1,516 sq. ft.
No of Random Samples = 13

PAGE 1 OF 1



BLDG 887 FLOOR PLAN

SURVEY MAP LEGEND (●) Asbestos Sample Location (▲) Beryllium Sample Location (■) Lead Sample Location (◆) RCRA/CERCLA Sample Location (●) PCB Sample Location		Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.	N 	0 FEET 15 0 METERS 5 1 inch = 12 feet 1 grid sq. = 1 sq. m.	U.S. Department of Energy Rocky Flats Environmental Technology Site Prepared by: GIS Dept. 303-966-7707 CH2MHILL CHEMICALS AND ENVIRONMENTAL GROUP MAP ID: 02-0091/B887BE	Prepared for: KAISER HILL Mar. 9, 2004
		Open/Inaccessible Area Area in Another Survey Unit				

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ATTACHMENT C-2

In-Process Biased Beryllium Data

Note: Data that has been lined out were of equipment that has been removed from the building.

Ad Hoc Sample Report
SURFACE

Best Available Copy

Building No.	Sample Number	Sample Work Pkg	Comp	Room Location	Analyte Name	Concentration
887	887-03052004-26-001	Sample Work Pkg	KH	Room Location INSI ON TOP OF WALL MOUNTED CONTROL BOX	BERYLLIUM AND B < 0.1000 _ UG/100CM	
	887-03052004-26-002	Sample Work Pkg	KH	Room Location INSI FLOOR MOUNT OF TANK	BERYLLIUM AND B < 0.1000 _ UG/100CM	
	887-03052004-26-003	Sample Work Pkg	KH	Room Location INSI ELEC. PIPE ON WALL	BERYLLIUM AND B < 0.1000 _ UG/100CM	
		Sample Work Pkg	Comp	Room Location		
	887-03052004-26-005	Sample Work Pkg	KH	Room Location INSI PUMP, TOP	BERYLLIUM AND B < 0.1000 _ UG/100CM	
	887-03052004-26-006	Sample Work Pkg	KH	Room Location INSI TOP OF TANK	BERYLLIUM AND B < 0.1000 _ UG/100CM	
	887-03052004-26-007	Sample Work Pkg	KH	Room Location INSI TOP OF TANK	BERYLLIUM AND B < 0.1000 _ UG/100CM	
	887-03052004-26-008	Sample Work Pkg	KH	Room Location INSI TOP OF TANK	BERYLLIUM AND B < 0.1000 _ UG/100CM	
	887-03052004-26-009	Sample Work Pkg	KH	Room Location INSI UNDER TANK/FLOOR	BERYLLIUM AND B < 0.1000 _ UG/100CM	
	887-03052004-26-010	Sample Work Pkg	KH	Room Location INSI FLOOR/STEP/CORNER	BERYLLIUM AND B < 0.1000 _ UG/100CM	
	887-03052004-26-011	Sample Work Pkg	KH	Room Location INSI TOP OF TANK	BERYLLIUM AND B < 0.1000 _ UG/100CM	
	887-03052004-26-012	Sample Work Pkg	KH	Room Location INSI TOP OF TANK	BERYLLIUM AND B < 0.1000 _ UG/100CM	
	887-03052004-26-013	Sample Work Pkg	KH	Room Location		

DOES NOT CONTAIN

OFFICIAL USE ONLY INFORMATION

Name/Org

Date

J. A. Nesheim DOE M4713-1

11/5/08

Ad Hoc Sample Report

SURFACE

Building No

Sample Number

Sample Work Pkg Comp

Room Location

Analyte Name

Concentration

887

Sample Work Pkg Comp Room Location

887-03052004-26-014

Sample Work Pkg Comp

WIPE

KH

Room Location

INSI TOP OF LIGHT FIXTURE

BERYLLIUM AND B < 0.1000 _ UG/100CM

887-03052004-26-015

Sample Work Pkg Comp

WIPE

KH

Room Location

INSI TOP OF TANK

BERYLLIUM AND B < 0.1000 _ UG/100CM

Sample Work Pkg Comp Room Location

887-03052004-26-017

Sample Work Pkg Comp

WIPE

KH

Room Location

INSI TOP OF TANK

BERYLLIUM AND B < 0.1000 _ UG/100CM

887-03052004-26-018

Sample Work Pkg Comp

WIPE

KH

Room Location

INSI TOP OF ELEC BOX

BERYLLIUM AND B < 0.1000 _ UG/100CM

887-03052004-26-019

Sample Work Pkg Comp

WIPE

KH

Room Location

INSI TOP OF DRUM

BERYLLIUM AND B < 0.1000 _ UG/100CM

887-03052004-26-020

Sample Work Pkg Comp

WIPE

KH

Room Location

INSI TOP OF FLOOR GRATE

BERYLLIUM AND B < 0.1000 _ UG/100CM

Sample Work Pkg Comp Room Location

887-03102004-313-002

Sample Work Pkg Comp

WIPE

FE

Room Location

INSI BOTTOM/ALONG LENGTH OF
PIPE/SEE MAP

BERYLLIUM AND B < 0.1000 _ UG/100CM

887-03102004-313-003

Sample Work Pkg Comp

WIPE

FE

Room Location

INSI BOTTOM/ALONG LENGTH OF
PIPE/SEE MAP

BERYLLIUM AND B < 0.1000 _ UG/100CM

Sample Work Pkg Comp Room Location

Ad Hoc Sample Report

SURFACE

Building No

Sample Number

887

Sample Work Pkg Comp

Room Location

Analyte Name

Concentration

Sample Work Pkg Comp Room Location

Sample Work Pkg Comp Room Location

Sample Work Pkg Comp Room Location

887-03102004-313-007

WIPE FE

INSI BOTTOM/UNDER TAPE ON
PIPE/SEE MAP

BERYLLIUM AND B < 0.1000 _ UG/100CM

887-03102004-313-008

Sample Work Pkg Comp
WIPE FE

Room Location
INSI BOTTOM/ON TOP OF TAPE ON
PIPE/SEE MAP

BERYLLIUM AND B < 0.1000 _ UG/100CM

887-03102004-313-009

Sample Work Pkg Comp
WIPE FE

Room Location
INSI BOTTOM/ADJACENT
VALVE/SEE MAP

BERYLLIUM AND B < 0.1000 _ UG/100CM

TOTAL SAMPLES: 29

ATTACHMENT C-3

RCRA/CERCLA Data Summaries

RFCA Attachment 5, Table 2 – Ground Water Tier II Action Levels

Analyte	Tier II (mg/L)
Acetone	3.65E+00
Aluminum	3.65E+01
Ammonium (as Ammonia)	3.54E+01
Antimony	6.00E-03
Arsenic	5.00E-02
Barium	2.00E+00
Benzene	5.00E-03
Beryllium	4.00E-03
Bromodichloromethane	1.00E-01
Bromoform [Tribromomethane]	1.00E-01
Bromomethane [Methyl bromide]	5.11E-02
2-Butanone [Methylethyl ketone]	2.19E+01
Cadmium	5.00E-03
Carbon disulfide	3.65E+00
Carbon tetrachloride	5.00E-03
Chlorobenzene	1.00E-01
Chloroethane	2.94E-02
Chloroform [Trichloromethane]	1.00E-01
Chloromethane [Methyl chloride]	6.55E-03
Chromium (total)	1.00E-01
Cobalt	2.19E+00
Copper	1.30E+00
Dibromochloromethane	1.01E-03
1,2-Dichlorobenzene	6.00E-01
1,1-Dichloroethane	3.65E+00
1,2-Dichloroethane	5.00E-03
1,1-Dichloroethene	7.00E-03
1,2-Dichloroethene (total)	7.00E-02
1,2-Dichloropropane	5.00E-03
cis-1,3-Dichloropropene	4.73E-04
trans-1,3-Dichloropropene	4.73E-04
Ethylbenzene	7.00E-01
Hexachlorobutadiene	1.09E-03
Lead (dissolved)	1.50E-02
Lithium	7.30E-01
Manganese	1.72E+00
Mercury	2.00E-03
Methylene chloride [Dichloromethane]	5.00E-03
Molybdenum	1.83E-01
Naphthalene	1.46E+00
Nickel	1.40E-01
Selenium	5.00E-02
Silver	1.83E-01
Strontium	2.19E+01
Styrene	1.00E-01
1,1,2,2-Tetrachloroethane	4.26E-04
Tetrachloroethene	5.00E-03
Thallium	2.00E-03
Tin	2.19E+01
Toluene	1.00E+00
1,2,4-Trichlorobenzene	7.00E-02
1,1,1-Trichloroethane	2.00E-01
1,1,2-Trichloroethane	5.00E-03
Trichloroethene	5.00E-03
Vanadium	2.56E-01
Vinyl chloride	2.00E-03
Xylene (total)	1.00E+01
Zinc	1.10E+01

TABLE C-3: BUILDING 887 RCRA/CERCLA VOAS AND METALS DATA SUMMARY

(FIRST RINSATE - RIN04D0783)

Sample Location	Sample Number	Result (mg/L)
887.2 Secondary Containment	04D0783-001.001	0.0025 mg/L (> clean closure limit 0.002 mg/L)
887.2 Secondary Containment	04D0783-001.002	Below Clean Closure Limits

(SECOND RINSATE - RIN04C0543)

Sample Location	Sample Number	Result (mg/L)
887.2 Secondary Containment	04C0543-001.001	0.000047 ^M _{SAP 6/17/04} mg/L (< clean closure limit 0.002 mg/L)

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STOLLER		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				COC: 04D0783#001 104D0783#001#A		Page 1 of 1		
RFETS										
Sample(s) <i>M. Hershey</i> (time/date)		Contact/Requester JOHNSEN. SHELLY / FOSS. DYAN				Telephone No. 6401 / 994-0325				
RIN 04D0783		Sampling Origin 887 DRUM				Purchase Order/Charge Code EED11660				
Project Title B887 WATER		Logbook No. <i>96 Van</i>				Ice Chest No.		Temp.		
To (Lab) ASSAIGAI ANALYTICAL LABORATORIES, INC		Method of Shipment <i>Federal EXPRESS</i>				Bill of Lading/Air Bill No. <i>6285-7197-0280</i>				
Protocol <i>ST-AS14-SOP-001</i>		Related COC (if any) <i>002</i>				PRE <i>040303-T130C-001</i>				
POSSIBLE SAMPLE HAZARDS/REMARKS Are acid preserved samples DOT hazardous per 40 CFR Part 136.3 Table II? YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/> Are other known hazardous substances present? YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/>					SCREENING REQUIRED <input type="checkbox"/>	SPECIAL INSTRUCTIONS Hold Time (Note: Some Bottle Nos. may be comprised of multiple vials, as indicated under Sample Analysis. Regardless of the vial analyzed, report results under the same Bottle No.)				
Bottle No.	Customer Number	Matrix	Date/Time	Location	Container (size/type)	Sample Analysis [Field-Filtered] LIC (Method Title) [TAT]/[Parameter List]			Preservative; Packing	
04D0783 -001.001	<i>N/A</i>	AQUEOUS	<i>5/19/04/1328</i>	B887	500-ML P/G	MET-A-013 (Rec. METALS - EPA 600) [7dF] (See Item 1)			HNO ₃ ; 4 C	
04D0783 -001.002	<i>↓</i>	AQUEOUS	<i>↓ ↓</i>	B887	40-ML G	(***) Set of 3 Vials (***) VOA-A-009 (VOLATILE ORGANICS 8260) [7dF] (See Item 2)			None; 4 C w/zhs	
<p>Item 1 MET-A-013: ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SELENIUM; SILVER; SODIUM; STRONTIUM; THALLIUM; TIN; URANIUM; VANADIUM; ZINC</p> <p>Item 2 VOA-A-009: 1,1,1,2-TETRACHLOROETHANE; 1,1,1-TRICHLOROETHANE; 1,1,2,2-TETRACHLOROETHANE; 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE; 1,1,2-TRICHLOROETHANE; 1,1-DICHLOROETHANE; 1,1-DICHLOROETHENE; 1,1-DICHLOROPROPENE; 1,2,3-TRICHLOROBENZENE; 1,2,3-TRICHLOROPROPANE; 1,2,4-TRICHLOROBENZENE; 1,2,4-TRIMETHYLBENZENE; 1,2-DIBROMO-3-CHLOROPROPANE; 1,2-DIBROMOETHANE; 1,2-DICHLOROETHANE; 1,2-DICHLOROPROPANE; 1,3,5-TRIMETHYLBENZENE; 1,3-DICHLOROPROPANE; 2,2-DICHLOROPROPANE; 2-BUTANONE; 2-CHLOROTOLUENE; 2-HEXANONE; 4-CHLOROTOLUENE; 4-ISOPROPYLTOLUENE; ACETONE; BENZENE; BROMOBENZENE; BROMOCHLOROMETHANE; BROMODICHLOROMETHANE; BROMOFORM; BROMOMETHANE; CARBON DISULFIDE; CARBON TETRACHLORIDE; CHLOROBENZENE; CHLOROETHANE; CHLOROFORM; CHLOROMETHANE; CIS-1,2-DICHLOROETHENE; CIS-1,3-DICHLOROPROPENE; CUMENE; DIBROMOCHLOROMETHANE; DIBROMOMETHANE; DICHLORODIFLUOROMETHANE; ETHYLBENZENE; HEXACHLOROBUTADIENE; M-DICHLOROBENZENE; METHYL-ISOBUTYL KETONE (MIBK); METHYLENE CHLORIDE; N-BUTYLBENZENE; N-PROPYLBENZENE; NAPHTHALENE; O-DICHLOROBENZENE; P-DICHLOROBENZENE; SEC-BUTYLBENZENE; STYRENE; TERT-BUTYLBENZENE; TETRACHLOROETHENE; TOLUENE; TRANS-1,2-DICHLOROETHENE; TRANS-1,3-DICHLOROPROPENE; TRICHLOROETHYLENE; TRICHLOROFLUOROMETHANE; VINYL CHLORIDE; XYLENES (TOTAL)</p>										
<p style="text-align: right;"><i>Cooler temperature 13C upon arrival 5-24-04</i></p>										
Relinquished By:		Date/Time	Received By:		Date/Time	Relinquished By:		Date/Time	Received By:	Date/Time
<i>Unknown</i>		<i>5/20/04 1200</i>	<i>Ref #1</i>		<i>5/20/04 1200</i>	<i>Fridge</i>		<i>5-20-04 1310</i>	<i>Ref #1</i>	<i>5-20-04 1310</i>
Relinquished By:		Date/Time	Received By:		Date/Time	Relinquished By:		Date/Time	Received By:	Date/Time
<i>Ref #1</i>		<i>5-20-04 1500</i>	<i>Federal Express</i>						<i>Mathur J. Eden</i>	<i>05/21/04 1300</i>
Relinquished By:		Date/Time	Received By:		Date/Time	Relinquished By:		Date/Time	Received By:	Date/Time
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., returned to customer, disposed of per lab procedure, used in analytical process)				Disposed By		Date/Time COC printed: 05/19/04 06:19 (Version: coc_r22.rpt)		

661 10 97

Certificate of Analysis

Lab Name	Assaigai Analytical Laboratories, Inc		RIN	04D0783
Lab Code	0405494		RF Sample Matrix	AQUEOUS
Receipt Date	05/21/2004		RF Sample ID	04D0783-001.001
Lab Sample ID	0405494-01A		LIC	MET-A-013
Prep ID	M04767-008	Sample Ext Aliquot	25	ML
% Solids	0	Final Ext Volume	25	ML

QC Group	Run Sequence	Parameter ID	Parameter Name	Result	Units	Dilution	Factor	C	Prep Date	Run Date
M04767	MT.2004.958.29	7439-97-6	Mercury	2.56	ug / L	1	1		05-21-04	05-25-04

Report Date 5/27/2004 12:32:59 PM

Certificate of Analysis

Lab Name	Assaigai Analytical Laboratories, Inc		RIN	04D0783
Lab Code	0405494		RF Sample Matrix	AQUEOUS
Receipt Date	05/21/2004		RF Sample ID	04D0783-001.001
Lab Sample ID	0405494-01A		LIC	MET-A-013
Prep ID	M04771-010	Sample Ext Aliquot	50 ML	
% Solids	0	Final Ext Volume	50 ML	

QC Group	Run Sequence	Parameter ID	Parameter Name	Result	Units	Dilution		Prep	Run
						Factor	C	Date	Date
M04771	MT.2004.966.21	7429-90-5	Aluminum	681	ug / L	20		05-21-04	05-25-04
M04771	MT.2004.965.21	7440-38-2	Arsenic	4.79	ug / L	1	B	05-21-04	05-23-04
M04771	MT.2004.965.21	7440-39-3	Barium	25.2	ug / L	1	B	05-21-04	05-23-04
M04771	MT.2004.965.21	7440-41-7	Beryllium	1.40	ug / L	1		05-21-04	05-23-04
M04771	MT.2004.965.21	7440-43-9	Cadmium	1.39	ug / L	1		05-21-04	05-23-04
M04771	MT.2004.966.21	7440-70-2	Calcium	14400	ug / L	20	B	05-21-04	05-25-04
M04771	MT.2004.966.21	7439-89-6	Iron	692	ug / L	20	B	05-21-04	05-25-04
M04771	MT.2004.965.21	7439-92-1	Lead	8.05	ug / L	1		05-21-04	05-23-04
M04771	MT.2004.966.21	7439-95-4	Magnesium	1570	ug / L	20	B	05-21-04	05-25-04
M04771	MT.2004.966.21	7439-96-5	Manganese	14.6	ug / L	20	B	05-21-04	05-25-04
M04771	MT.2004.965.21	7439-98-7	Molybdenum	9.64	ug / L	1	B	05-21-04	05-23-04
M04771	MT.2004.966.21	7440-09-7	Potassium	26000	ug / L	20	B	05-21-04	05-25-04
M04771	MT.2004.965.21	7782-49-2	Selenium	0.670	ug / L	1	B	05-21-04	05-23-04
M04771	MT.2004.965.21	7440-22-4	Silver	1.85	ug / L	1		05-21-04	05-23-04
M04771	MT.2004.966.21	7440-23-5	Sodium	89800	ug / L	20	B	05-21-04	05-25-04
M04771	MT.2004.965.21	7440-24-6	Strontium	148	ug / L	1	B	05-21-04	05-23-04
M04771	MT.2004.965.21	7440-28-0	Thallium	0.0820	ug / L	1	U	05-21-04	05-23-04
M04771	MT.2004.965.21	7440-31-5	Tin	1.18	ug / L	1	B	05-21-04	05-23-04
M04771	MT.2004.965.21	11-09-6	Uranium	40.4	ug / L	1		05-21-04	05-23-04
M04771	MT.2004.966.21	7440-66-6	Zinc	151	ug / L	20	B	05-21-04	05-25-04

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Certificate of Analysis

Lab Name	Assaigai Analytical Laboratories, Inc		RIN	04D0783
Lab Code	0405494		RF Sample Matrix	AQUEOUS
Receipt Date	05/21/2004		RF Sample ID	04D0783-001.001
Lab Sample ID	0405494-01A		LIC	MET-A-013
Prep ID	M04788-003	Sample Ext Aliquot	50 ML	
% Solids	0	Final Ext Volume	50 ML	

QC Group	Run Sequence	Parameter ID	Parameter Name	Result	Units	Dilution Factor	C	Prep Date	Run Date
M04788	MT.2004.972.16	7440-36-0	Antimony	5.48	ug / L	2	B	05-25-04	05-26-04
M04788	MT.2004.972.16	7440-47-3	Chromium	17.6	ug / L	2		05-25-04	05-26-04
M04788	MT.2004.972.16	7440-48-4	Cobalt	8.74	ug / L	2	B	05-25-04	05-26-04
M04788	MT.2004.972.16	7440-50-8	Copper	63.7	ug / L	2		05-25-04	05-26-04
M04788	MT.2004.972.16	7440-02-0	Nickel	35.4	ug / L	2	B	05-25-04	05-26-04
M04788	MT.2004.972.16	7440-62-2	Vanadium	123	ug / L	2		05-25-04	05-26-04

Certificate of Analysis

Lab Name	Assaigai Analytical Laboratories, Inc			RIN	04D0783
Lab Code	0405494			RF Sample Matrix	AQUEOUS
Receipt Date	05/21/2004			RF Sample ID	04D0783-001.001
Lab Sample ID	0405494-01A			LIC	MET-A-013
Prep ID	M04789-003	Sample Ext Aliquot	50 ML		
% Solids	0	Final Ext Volume	50 ML		

QC Group	Run Sequence	Parameter ID	Parameter Name	Result	Units	Dilution		Prep		Run
						Factor	C	Date	Date	
M04789	MT.2004.974.16	7439-93-2	Lithium	9.87	ug / L	1	B	05-25-04	05-26-04	

Report Date 5/27/2004 12:32:59 PM

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Certificate of Analysis

Lab Name	Assaigai Analytical Laboratories, Inc		RIN	04D0783
Lab Code	0405494		RF Sample Matrix	AQUEOUS
Receipt Date	05/21/2004		RF Sample ID	04D0783-001.002
Lab Sample ID	0405494-02A		LIC	VOA-A-009
Prep ID	X04568-003	Sample Ext Aliquot	5000 uL	
% Solids	0	Final Ext Volume	1 TUBE	

QC Group	Run Sequence	Parameter ID	Parameter Name	Result	Units	Dilution Factor	C	Prep Date	Run Date
X04568	XG.2004.902.7	630-20-6	1,1,1,2-Tetrachloroethane	0.24	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	71-55-6	1,1,1-Trichloroethane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	79-34-5	1,1,2,2-Tetrachloroethane	0.54	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	79-00-5	1,1,2-Trichloroethane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	75-34-3	1,1-Dichloroethane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	75-35-4	1,1-Dichloroethene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	563-58-6	1,1-Dichloropropene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	87-61-6	1,2,3-Trichlorobenzene	1.8	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	96-18-4	1,2,3-Trichloropropane	0.63	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	120-82-1	1,2,4-Trichlorobenzene	1.4	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	95-63-6	1,2,4-Trimethylbenzene	0.58	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	96-12-8	1,2-Dibromo-3-chloropropane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	106-93-4	1,2-Dibromoethane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	107-06-2	1,2-Dichloroethane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	78-87-5	1,2-Dichloropropane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	108-67-8	1,3,5-Trimethylbenzene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	142-28-9	1,3-Dichloropropane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	594-20-7	2,2-Dichloropropane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	78-93-3	2-Butanone	100	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	95-49-8	2-Chlorotoluene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	591-78-6	2-Hexanone	50	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	106-43-4	4-Chlorotoluene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	99-87-6	4-Isopropyltoluene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	108-10-1	4-Methyl-2-pentanone	50	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	67-64-1	Acetone	86	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	71-43-2	Benzene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	108-86-1	Bromobenzene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	74-97-5	Bromochloromethane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	75-27-4	Bromodichloromethane	1.8	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	75-25-2	Bromoform	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	74-83-9	Bromomethane	2.1	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	75-15-0	Carbon Disulfide	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	56-23-5	Carbon Tetrachloride	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	108-90-7	Chlorobenzene	0.48	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	75-00-3	Chloroethane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	67-66-3	Chloroform	20	ug / L	1		05-23-04	05-23-04
X04568	XG.2004.902.7	74-87-3	Chloromethane	3.4	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	156-59-2	cis-1,2-Dichloroethene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	10061-01-5	cis-1,3-Dichloropropene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	124-48-1	Dibromochloromethane	0.45	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	74-95-3	Dibromomethane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	75-71-8	Dichlorodifluoromethane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	100-41-4	Ethylbenzene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	87-68-3	Hexachlorobutadiene	1.3	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	98-82-8	Isopropylbenzene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	541-73-1	m-Dichlorobenzene	0.79	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	75-09-2	Methylene Chloride	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	91-20-3	Naphthalene	1.9	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	104-51-8	n-Butylbenzene	5.0	ug / L	1	U	05-23-04	05-23-04

Report Date 5/27/2004 12:34:08 PM

Certificate of Analysis

Lab Name	Assaigai Analytical Laboratories, Inc		RIN	04D0783
Lab Code	0405494		RF Sample Matrix	AQUEOUS
Receipt Date	05/21/2004		RF Sample ID	04D0783-001.002
Lab Sample ID	0405494-02A		LIC	VOA-A-009
Prep ID	X04568-003	Sample Ext Aliquot	5000 μ L	
% Solids	0	Final Ext Volume	1 TUBE	

QC Group	Run Sequence	Parameter ID	Parameter Name	Result	Units	Dilution	C	Prep	Run
						Factor		Date	Date
X04568	XG.2004.902.7	103-65-1	n-Propylbenzene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	95-50-1	o-Dichlorobenzene	0.78	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	106-46-7	p-Dichlorobenzene	0.91	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	135-98-8	sec-Butylbenzene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	100-42-5	Styrene	0.56	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	98-06-6	tert-Butylbenzene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	127-18-4	Tetrachloroethene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	108-88-3	Toluene	0.66	ug / L	1	J	05-23-04	05-23-04
X04568	XG.2004.902.7	156-60-5	trans-1,2-Dichloroethene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	10061-02-6	trans-1,3-Dichloropropene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	79-01-6	Trichloroethene	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	75-69-4	Trichlorofluoromethane	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	75-01-4	Vinyl Chloride	5.0	ug / L	1	U	05-23-04	05-23-04
X04568	XG.2004.902.7	1330-20-7	Xylenes (total)	5.0	ug / L	1	U	05-23-04	05-23-04

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JUN-17-2004 THU 01:26 PM 707 PROJECT

Kaiser-Hill RFETS		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				COC: 04C0543#001 04C0543#001		Page 1 of 1
Sampler(s) Randy Boyle Sue Powell		(time/date)		Contact/Requester TRICE, CONRAD / FOSS, DYAN		Telephone No. 303-994-4985 / 7577		
RIN 04C0543				Sampling Origin B887, OUTSIDE		Purchase Order/Charge Code EED50160		
Project Title B887, 55-GALLON DRUM OUTSIDE, RINSATE WATER				Logbook No. Blue Dodge Van		Ice Chest No.		Temp.
To (Lab) General Engineering				Method of Shipment STOLLER - Fed Ex		Bill of Lading/Air Bill No. 6295-7197-0783		
Protocol ST-AS14-SOP001				Related COC (if any) 002		PRE 040119-7130C-001		
POSSIBLE SAMPLE HAZARDS/REMARKS Are acid preserved samples DOT Hazardous per 40 CFR Part 114.3 Table II? YES <u>NO</u> Are other known hazardous substances present? YES <u>NO</u>				SCREENING REQUIRED <input type="checkbox"/>		SPECIAL INSTRUCTIONS Hold Time IDC-505 114511 - Metals 114517 - MIS		
Bottle No.	Customer Number	Matrix	Date/Time	Location	Container (size/type)	Sample Analysis (Field-Filtered) LIC (Method Title) [TAT]/(Parameter List)		Preservative; Packing
04C0543 -001.001		AQUEOUS	6/07/04 1015	B887, OUTSIDE	1-L P/G	MET-A-020 (METALS - 6010/6010B - SINGLE) (7ds) (MERCURY) MIS-A-003 (pH AQUEOUS/MULTIPHASE WASTES BY SW846 ...) (7ds) (CORROSIVITY FOR LIQUID WASTE)		None; None None; None
Relinquished By:		Date/Time	Received By:		Date/Time	Relinquished By:		Date/Time
Chiron		6/8/04 0830	Ref #1		6/8/04 0830	Chiron		6/8/04 1500
Relinquished By:		Date/Time	Received By:		Date/Time	Relinquished By:		Date/Time
Chiron		6/8/04 1500	Fed Ex			Chiron		6-9-04 7150
Relinquished By:		Date/Time	Received By:		Date/Time	Relinquished By:		Date/Time
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., returned to customer, disposed of per lab procedure, used in analytical process)				Disposed By		Date/Time COC printed: 06/07/04 07:03 (Version: coc_r22.rpt)

H:\604043

TOTAL METALS
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

SDG No.: 04C0543-MET

Method Type: SW846

Sample ID: 114511001

Client ID: 04C0543-001.001

Contract: KHCO00100

Lab Code: GEL

Case No.: GEL

SAS No.:

Matrix: WATER

Date Received: 6/9/2004

Level: LOW

% Solids: 0.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-97-6	Mercury	0.047	µg/L	U		AV	0.047	PE CVAA2	061604W1Hg

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

ATTACHMENT D

Data Quality Assessment (DQA) Detail

DATA QUALITY ASSESSMENT (DQA)

VERIFICATION & VALIDATION (V&V) OF RESULTS

V&V of the data confirm that appropriate quality controls are implemented throughout the sampling and analysis process, and that any substandard controls result in qualification or rejection of the data in question. The required quality controls and their implementation are summarized in a tabular, checklist format for each category of data – radiological surveys and chemical analyses [specifically beryllium, Volatile Organic Compounds (VOCs) and metals].

DQA criteria and results are provided in a tabular format for each suite of surveys or chemical analyses performed. The radiological survey assessment is provided in Table D-1, beryllium in Table D-2, VOCs in Table D-3 and Metals in Table D-4. A data completeness summary for all results is given in Table D-5.

All relevant Quality records supporting this report are maintained in the RISS Characterization Project File. The report will be submitted to the CERCLA Administrative Record for permanent storage within 30 days of approval by the Regulators. All radiological data are organized into Survey Packages, which correlate to unique (MARSSIM) Survey Units. Chemical data are organized by RIN (Report Identification Number) and are traceable to the sample number and corresponding sample location.

Media samples were taken and analyzed by ISOCS Canberra gamma spectroscopy. Transuranic isotope activity and Uranium and/or other naturally occurring isotope activity were evaluated against, and were less than the Transuranic DCGL_w (100 dpm/100cm²) and the Uranium DCGL_w (5,000 dpm/100cm²) unrestricted release limits. Media results were converted to dpm/100cm² using media conversion tables, evaluated against the transuranic and uranium DCGL limits, and are the values reported in Attachment B-1. Survey designs were implemented for Building 887 based on the transuranic or uranium limits (DCGLs), as applicable, in the unrestricted release decision process. Survey results were evaluated against, and were less than the Transuranic DCGL_w (100 dpm/100cm²) (i.e., SU 887001) or the Uranium DCGL_w (5,000 dpm/100cm²) unrestricted release limits (i.e., SU 887002), as applicable. On this basis, all PDS results were less than the PDSP unrestricted release limits.

Consistent with EPA's G-4 DQO process, the radiological survey design for each survey unit performed per PDS requirements was optimized by checking actual measurement results acquired during pre-demolition surveys against the model output with original estimates. Use of actual sample/survey (result) variances in the MARSSIM DQO model confirms that an adequate number of surveys were acquired.

DQA SUMMARY

In summary, the data presented in this report have been verified and validated relative to the quality requirements and project decisions as stated in the original DQOs. All data are useable based on qualifications stated herein and are considered satisfactory without qualification. All media surveyed and sampled yielded results less than their associated action levels and with acceptable certainties.

Media samples were collected in accordance with the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP) requirements. The media sample results and sample location maps are located in Attachment B-1 and the RISS Characterization Project files. All final "as left" results for media samples were below the Transuranic and/or Uranium unrestricted release limits as applicable. Although these survey units are not included in Table D, *Data Completeness Summary*, the packages were reviewed as part of the DQA process and verified that the original project DQOs satisfied MARSSIM guidance and DQO objectives were met.

Based upon an independent review of the radiological data, it was determined that the original project DQOs satisfied MARSSIM guidance. All facility contamination levels were below applicable PDSP DCGL unrestricted release levels confirming a Type 2 Facility classification. Minimum survey requirements were met, sampling/survey protocol was performed in accordance with applicable RSPs, survey units were properly designed and bounded, and instrument performance and calibration were within acceptable limits. All results meet the applicable PDS unrestricted release criteria.

Chain of Custody was intact; documentation was complete, hold times were acceptable (where applicable,) and packaging integrity/custody seals were maintained throughout the sampling/analysis process. Level 1 Isolation Controls have been posted to prevent the inadvertent introduction of contamination into Building 887. On this basis, Building 887 meets the PDSP unrestricted release criteria with the confidences stated herein.

Table D-1 V&V of Radiological Results - Buildings 887

V&V CRITERIA, RADIOLGICAL SURVEYS		K-H RSP 16.00 Series MARSSIM (NUREG-1575)		
QUALITY REQUIREMENTS				
	Parameters	Measure	Frequency	COMMENTS
ACCURACY	Initial calibrations	90%<x<110%	≥1	Multi-point calibration through the measurement range encountered in the field; programmatic records.
	Daily source checks	80%<x<120%	≥1/day	Performed daily/within range.
	Local area background: Field	Typically < 10 dpm	≥1/day	All local area backgrounds were within expected ranges (i.e., no elevated anomalies.)
PRECISION	Field duplicate measurements for TSA	≥5% of real survey points	≥10% of reals	N/A
REPRESENTATIVENESS	MARSSIM methodology: Survey Units 887001 and 887002 (interior).	Statistical and biased	NA	Random w/ statistical confidence.
	Survey Maps	NA	NA	Random and biased measurement locations controlled/mapped to ±1m.
	Controlling Documents (Characterization Pkg; RSPs)	qualitative	NA	Refer to the Characterization Package (planning document) for field/sampling procedures (located in Project files); thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	Units of measure	dpm/100cm ²	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual surveys Usable results vs. unusable	>95% >95%	NA	See Table D-4 for details.
SENSITIVITY	Detection limits	(Transuranic) TSA: ≤50 dpm/100cm ² RA: ≤10 dpm/100cm ² (Uranium) TSA: ≤2500 dpm/100cm ² RA: ≤500 dpm/100cm ²	all measures	PDS MDAs ≤ 50% DCGL _w

Table D-2 V&V of Beryllium Results - Building 887

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		COMMENTS
BERYLLIUM	Prep: NMAM 7300 METHOD: OSHA ID-125G	LAB ---->	Johns Manville Littleton, Colorado	
		RIN ---->	RIN04D0797 RIN04Z1317	
QUALITY REQUIREMENTS		Measure	Frequency	All final PDS results were below unrestricted release levels.
ACCURACY	Calibrations Initial	Linear calibration	≥1	
	Continuing	80%<%R<120%	≥1	
	LCS/MS	80%<%R<120%	≥1	
	Blanks – lab & field	<MDL	≥1	
	Interference check std (ICP)	NA	NA	
PRECISION	LCSD	80%<%R<120% (RPD<20%)	≥1	
	Field duplicate	All results < RL	≥1	
REPRESENTATIVENESS	COC	Qualitative	NA	
	Hold times/preservation	Qualitative	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	
COMPARABILITY	Measurement units	Ug/100cm ²	NA	
COMPLETENESS	Plan vs. Actual samples	>95%	NA	
	Usable results vs. unusable	>95%		
SENSITIVITY	Detection limits	MDL of 0.00084 ug/swipe	all measures	

Table E-3 V&V of VOC Results - Buildings 887

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		COMMENTS
VOCs	METHOD: SW8260	LAB ---->	Assagai Analytical Laboratories	
		RIN ---->	RIN04D0783 (1 st Rinsate)	
QUALITY REQUIREMENTS		Measure	Frequency	All results were below unrestricted release limits.
ACCURACY	Calibrations: Initial	± 40%D in Response Factor	≥1/batch	
	Continuing	80%<%R<120%	≥1/batch	
	LCS	80%<%R<120%	≥1/batch	
	MS	75%<%R<125%	≥1 batch	
	Blanks - lab	ug/kg	≥1/batch	
	Internal standards	retention times and area factors	≥1/batch	
	Surrogate	%R (variable)	≥1/batch	
PRECISION	MSD	RPD<30%	≥1/batch	
	Field duplicate	all results < RL	≥1/batch	
REPRESENTATIVENESS	COC	Qualitative	NA	
	Hold times/preservation	≤ 14 days	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	
COMPARABILITY	Measurement units	ug/kg	NA	
COMPLETENESS	Plan vs. Actual samples	>95%	NA	
	Usable results vs. unusable	>95%		
SENSITIVITY	Detection limits	Various	all analytes	

Table D-4 V&V of Metals – Building 887

V&V CRITERIA, CHEMICAL ANALYSES			DATA PACKAGE		COMMENTS
Metals (total)	METHOD: SW6010/6020		LAB ---->	General Engineering and Assaigai Analytical Laboratories	
			RIN ---->	RIN04D0783 (1 st Rinsate) RIN04C0543 (2 nd Rinsate)	
QUALITY REQUIREMENT					COMMENTS
			Measure	frequency	All TCLP Metal results well below unrestricted release limits.
ACCURACY	calibrations	Initial	Linear calibration	≥1/batch	
		Continuing	80%<%R<120%	≥1/batch	
	LCS		80%<%R<120%	≥1/batch	
	MS		75%<%R<125%	≥1/batch	
	blanks	Lab	mg/kg	≥1/batch	
	serial dilutions		%D<10%	≥1/batch	
	interference check std (ICP)		80%<%R<120%	bracket batch	
PRECISION	MSD		RPD<30%	≥1/batch	
	field duplicate		All results < RL	≥1/batch	
REPRESENTATIVENESS	GOC		Qualitative	NA	
	hold times/preservation		≤180 days	NA	
	Controlling Documents (Plans, Procedures, Maps, etc.)		Qualitative	NA	
COMPARABILITY			mg/kg	NA	
COMPLETENESS	Plan vs. Actual samples		>95%	NA	
	usable results vs. unusable		>95%		
SENSITIVITY	detection limits		Various	all analytes	

Table D-5 Data Completeness Summary – Building 887

ANALYTE	Building/Area/ Unit	Sample Number Planned (Real & QC) ^A	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Beryllium	Building 887 (interior)	12 samples	13 samples (13 random - interior)	No Be contamination found at any location, all results were below associated action levels	10CFR850; OSHA ID-125G RIN04D0797 – sample locations 1, 2, 3, 5, 7, 8, 9, 10 and 11 RIN04Z1317 – sample locations 4, 6, 12 and 13 All results were below the action level (0.2 ug/100cm ²) and the investigative level (0.1 ug/100cm ²).
VOCs	Building 887- RCRA Unit 887.2 Secondary Containment (interior)	1 sample	1 sample (aqueous)	No VOC contamination found, all results less than the regulatory limit	6 CCR 1007-3; SW 846 1311/Method 8260 RIN04D0783 (1 st Rinsate)
Metals	Building 887- RCRA Unit 887.2 Secondary Containment (interior)	2 samples	2 samples (aqueous)	No metal contamination found, all results were below the regulatory limit	SW 846 1311; SW 846 6010/6010B RIN04D0783 (1 st Rinsate): Mercury greater than the clean closure limits 0.002 mg/L (0.0025 mg/L). RIN04C0543 (2 nd Rinsate): Mercury less than the clean closure limits 0.002 mg/L (0.000047 mg/L).
Radiological	Survey Area O Survey Unit: 887001 Building 887 (MU- O) – Rooms 3 and 4, floors and walls < 4 ft.	23 α TSA (systematic) 23 α RSA (systematic) 2 QC TSA 100% scan	23 α TSA (systematic) 23 α RSA (systematic) 2 QC TSA 100% scan	No contamination at any location; all values below unrestricted release levels	Transuranic DCGL used.

Table D-5 Data Completeness Summary – Building 887

ANALYTE	Building/Area/ Unit	Sample Number Planned (Real & QC) ^A	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area O Survey Unit: 887002 Building 887 (MU- O) – All Class 2 Areas	17 α TSA (systematic)	17 α TSA (systematic)	No contamination at any location; all values below unrestricted release levels	Uranium DCGL used.
		17 α RSA (systematic)	17 α RSA (systematic)		
		2 QC TSA	2 QC TSA		
		50% scan	50% scan		

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CORRESPONDENCE
CONTROL



04-RF-00614

JUN 17 2004

Gary Morgan, Functional Lead
Cadre Project Management Division
DOE, RFPO

**TRANSMITTAL OF THE BUILDING 881 1st FLOOR and 1st FLOOR MEZZANINE –
PRE-DEMOLITION SURVEY REPORT (PDSR) - DWF-033-04**

Provided for your review and approval is the enclosed subject report for the Building 881 1st Floor and 1st Floor Mezzanine. This report characterizes the physical, chemical and radiological hazards associated with these areas, summarizes the characterization activities, defines the Data Quality Objectives developed for this characterization, and presents the data quality assessment, verification and validation of results.

Based upon this PDSR and subject to concurrence by the CDPHE, these areas of Building 881 are acceptable for demolition. All surfaces of these areas meet the PDSP unrestricted release criteria.

Please notify Kaiser-Hill when you transmit this document to CDPHE. If you have any questions, do not hesitate to call me or Duane Parsons at extension 6458.

Dennis W. Ferrera
Vice President and Project Manager
Remediation, Industrial D&D and Site Services

DLP:pvt

Enclosure:
As Stated

Orig. and 1 cc - G. Morgan



Rocky Flats Environmental Technology Site

PRE-DEMOLITION SURVEY REPORT (PDSR)

**BUILDING 881 CLOSURE PROJECT
(First Floor and First Floor Mezzanine)**

VOLUME 3

June 17, 2004

**CLASSIFICATION REVIEW NOT REQUIRED PER
EXEMPTION NUMBER CEX-005-02**

PRE-DEMOLITION SURVEY REPORT (PDSR)


BUILDING 881 CLOSURE PROJECT (First Floor and First Floor Mezzanine)

VOLUME 3

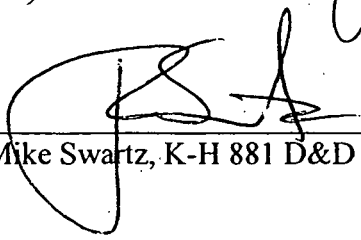
June 17, 2004

Reviewed by: 
Don Risoli, Quality Assurance

Date: 6/17/04

Reviewed by: 
D.P. Snyder, RISS ESH&Q Manager

Date: 6/17/04

Approved by: 
Mike Swartz, K-H 881 D&D Project Manager

Date: 6/17/04

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- D Data Quality Assessment (DQA) Detail

ABBREVIATIONS/ACRONYMS

ACM	Asbestos Containing Material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
DCGL _{EMC}	Derived Concentration Guideline Level – elevated measurement comparison
DCGL _w	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data quality assessment
DQOs	Data quality objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, ventilation, air conditioning
HSAR	Historical Site Assessment Report
HEUN	Highly Enriched Uranyl Nitrate
IHSS	Individual Hazardous Substance Site
IVT	Independent Verification Team
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBP	Lead-based paint
LLW	Low-level waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
NORM	Naturally occurring radioactive material
NRA	Non-Rad-Added Verification
OSHA	Occupational Safety and Health Administration
PARCC	Precision, accuracy, representativeness, comparability and completeness
PCBs	Polychlorinated Biphenyls
PDS	Pre-Demolition Survey
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSA	Removable Surface Activity
RSP	Radiological Safety Practices
SVOCs	Semi-volatile organic compounds
TCLP	Toxicity Characteristic Leaching Procedure
TSA	Total Surface Activity
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

A Pre-Demolition Survey (PDS) was performed to enable compliant disposition and waste management of Building 881. Because this Type 2 Facility will be demolished, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). Building surfaces characterized as part of this PDS included the Building 881 1st Floor and 1st Floor mezzanine interior floors, walls and ceilings (Volume 3). The Building 881 2nd Floor, 2nd Floor mezzanine and the 881/883 Tunnel (Volume 1); and the 881 Basement (Volume 2) interior floors, walls and ceilings will be reported in stand-alone PDSRs. The Building 881 exterior was characterized in accordance with Pre-Demolition Survey Plan (MAN-127-PDSP) requirements as part of the Building 881 Cluster RLCR, completed November 6, 2001. Environmental media beneath and surrounding Building 881 was not within the scope of this PDS and will be addressed in accordance with the Soil Disturbance Permit process and in compliance with RFCA.

The PDS encompassed both radiological and chemical characterization to enable compliant disposition and waste management pursuant to the D&D Characterization Protocol (MAN-077-DDCP). The characterization built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report and Reconnaissance Level Characterization Report for the Building 881 Cluster.

Final "as left" PDS results indicate that radiological, beryllium, RCRA/CERCLA constituents and PCBs do not exist in excess of the PDSP unrestricted release limits. PCB ballasts, and other hazardous waste items (e.g., mercury thermostats, fluorescent light bulbs, mercury vapor light bulbs, mercury-containing gauges, circuit boards, leaded glass, and lead-acid batteries) have been removed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations. PCBs in paint meet the unrestricted release criteria of the RSOP for Facility Disposition (risk assessment 761.62c). All remaining Building 881 building materials are inert.

Asbestos abatement was conducted in Building 881 prior to the PDS. Friable and non-friable asbestos containing building materials were removed per CDPHE, Regulation No. 8, Part B, *Emission Standards for Asbestos*. Cinderblock walls containing non-friable asbestos block filler remain in portions of the building. Prior to the use of explosives, the ACM block walls will be mechanically back filled into the 881 basement and pit areas in accordance with the RFCA Contact Record (refer to RFETS Contact Record prepared by Steve Nesta on August 21, 2003). Small quantities of mastic remain in portions of the building and will be used as fill in the 881 basement.

Based upon this PDSR, Building 881 1st Floor and 1st Floor Mezzanine can be decommissioned. Demolition concrete rubble will be used for backfill on-site per the RFCA Recycling Concrete RSOP. Appropriate approvals have been obtained for leaving portions of the facility in-place underground. To ensure the facility remains free of contamination and PDS data remain valid, Level 1 Isolation Controls have been established and the area posted accordingly.

1 INTRODUCTION

A Pre-Demolition Survey (PDS) was performed to enable compliant disposition and waste management of Building 881. Because this Type 2 Facility will be demolished, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). Building surfaces characterized as part of this PDS included Building 881 1st Floor and 1st Floor Mezzanine interior floors, pits, walls and ceilings (Volume 3). The Building 881 2nd Floor, 2nd Floor Mezzanine and the 881/883 Tunnel (Volume 1); and the 881 Basement (Volume 2) interior floors, walls and ceilings will be reported in a stand-alone PDSR. The Building 881 exterior was characterized in accordance with Pre-Demolition Survey Plan (MAN-127-PDSP) requirements as part of the Building 881 Cluster RLCR, completed November 6, 2001. Additional confirmatory surveys of Building 881 exterior and interior were performed and all results were less than the applicable PDS transuranic and uranium DCGL values. Environmental media beneath and surrounding Building 881 was not within the scope of this PDS and will be addressed in accordance with the Soil Disturbance Permit process and in compliance with RFCA.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed, among these is Building 881. The location of this facility is shown in Attachment A, *Facility Location Map*. This facility no longer supports the RFETS mission and will be removed to reduce Site infrastructure, risks and/or operating costs.

Before this Type 2 Facility can be demolished, the Data Quality Objectives (DQOs) for a Pre-Demolition Survey (PDS) must be satisfied; this document presents the PDS results for Building 881 1st Floor and 1st Floor Mezzanine. The PDS was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). The PDS built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report and Reconnaissance Level Characterization Report for the Building 881 Cluster, dated November 6, 2001, Revision 0.

1.1 Purpose

The purpose of this report is to communicate and document the results of the Building 881 1st Floor and 1st Floor Mezzanine PDS effort. A PDS is performed prior to building demolition to define the pre-demolition radiological and chemical conditions of the facility. The pre-demolition conditions are compared with the release limits for radiological and non-radiological contaminants. PDS results will enable project personnel to make final disposition decisions, develop related worker health and safety controls, and estimate waste volumes by waste types.

1.2 Scope

This report presents the pre-demolition radiological and chemical conditions of the Building 881 1st Floor and 1st Floor Mezzanine. The PDS radiological survey data for Room 199A and the ventilation chase between Room 199A and Room 17 (SU 881E10) and stairwell 147A (SU 881K03) are also included in this PDS reported.

The Building 881 2nd Floor, 2nd Floor Mezzanine and the 881/883 Tunnel (Volume 1), and the 881 Basement (Volume 2) interior floors, walls and ceilings are reported in stand-alone PDSRs. Additionally, the stairwells leading from the 2nd floor to the lower levels (i.e., survey units 881C12, 881J10, 881J12); the 159, 100B, and 149 elevators (i.e., survey units 881D05 and 881H03); and the South Loading Dock (i.e., survey units 881R01 and 881R02); were also included in the Building 881 2nd floor, 2nd floor mezzanine and 881/883 Tunnel PDS report (Volume 1). The PC-2 pipe chase (i.e., survey unit 881F03) was included in the Building 881 Basement PDS report (Volume 2). Environmental media beneath and surrounding the facilities are not within the scope of this PDSR and will be addressed in accordance with the Soil Disturbance Permit process and in compliance with RFCA.

1.3 Data Quality Objectives

The Data Quality Objectives (DQOs) used in designing this PDS were the same DQOs identified in the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). Refer to section 2.0 of MAN-127-PDSP for these DQOs.

2 HISTORICAL SITE ASSESSMENT

A Facility-specific Historical Site Assessment (HSA) and Reconnaissance Level Characterization (RLC) was conducted to understand the facility history and related hazards. The HSA consisted of facility walk-downs, interviews and document review, including review of the Historical Release Report, and were used to design the RLC. The Building 881 RLC was performed in the fall of 2001, as part of the Building 881 Cluster RLCR (refer to *Reconnaissance Level Characterization Report for the Building 881 Cluster*, dated November 6, 2001, Revision 0). Based on the RLC results, beryllium and radiological contamination was identified, and Building 881 was classified as a Type 2 Facility. Therefore, a PDS characterization was required before demolition of the facility. The HSA, RLCR and in-process characterization results were used to identify PDS data gaps and needs, and to develop radiological and chemical PDS characterization packages. HSA and RLC documentation are located in the RISS Characterization Project files.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

3.1 In-Process Stripout and Decontamination

Radiological contamination was identified during the RLC, as well as during the in-process stripout and decontamination phase in numerous areas of the facility. Thus, extensive stripout and decontamination was required prior to the PDS. All potentially contaminated equipment, system piping, and block walls were removed from the building prior to PDS. After stripout and decontamination was completed, the areas were cleaned up, isolated and re-surveyed prior to turnover to the PDS Team.

3.2 Transuranic Versus and Uranium Activity Areas

Based on RLC data, and historical and process knowledge, transuranic and uranium activity were both a concern inside Building 881. Therefore, in-process media sampling was performed to determine transuranic and uranium areas of concern. Biased and random paint and concrete samples were collected throughout the building and were isotopically analyzed for transuranic and uranium contamination. Based on the isotopic results, Building 881 was divided into transuranic and uranium areas of concern. Any areas where the media samples were greater than the transuranic PDS unrestricted release criteria were designated transuranic areas and surveyed to the transuranic PDS unrestricted release criteria. All other areas were designated uranium areas and surveyed to the uranium PDS unrestricted release criteria.

The 881 first floor areas that were initially designated as transuranic areas were decontaminated and re-sampled. All re-sample results were less than the transuranic PDS unrestricted release criteria, therefore these areas were re-designated to uranium areas and surveyed to the uranium PDS unrestricted release criteria. Survey Units 881E03, 881E04, 881K01, 881K02, 881, K03, 881K04, 881, 881M05 and 881M06 were re-designated from transuranic to uranium areas via this method. Refer to Attachment B-1, *Media Sample Results Table and Sample Location Map*, for the "as left" media sample results and the sample locations.

3.3 Stainless Steel Floor Areas

Building 881 contains about 40,000 square feet of floor space that is covered over with 14 gage 304L stainless steel plating. The stainless steel plating was welded to concrete-embedded stainless steel channeling in approximately 3 x 8 feet rectangles. Random and biased locations underneath the stainless steel floor areas were surveyed during the RLCR. However, additional stainless steel floor areas were discovered during in-process stripout. Therefore, additional random and biased locations were chosen in the newly discovered stainless steel floor areas as well as in RLCR identified areas, to ensure an adequate sample population was collected. Electra probe sized holes (approximately 4 x 8 inches) were made in the stainless steel flooring and surveys of the bare concrete were performed. Additionally, at any survey location that indicated total surface activity above 100 dpm/100cm², a concrete media sample was collected and isotopically analyzed for transuranic and uranium contamination.

All 1st floor stainless steel floor areas were designated uranium areas and surveyed to the uranium PDS unrestricted release criteria. Since contamination above the uranium unrestricted release criteria was identified underneath the stainless steel flooring in portions of Rooms 114A, 114 and 199, stainless steel flooring was removed in these areas prior to the PDS. All final PDS stainless steel flooring surveys and sample results were less than the applicable PDS unrestricted release criteria. Refer to Attachment B-2, *Stainless Steel Flooring Survey/Sample Results Table and Survey/Sample Location Maps*, for the "as left" stainless steel flooring survey and sample results and locations. Based on discussions and agreements with DOE and CDPHE, the stainless steel flooring can remain in-place and be buried with the balance of the sanitary concrete demolition debris.

3.4 Building 881 Confirmatory Surveys (Exterior & Interior)

The Building 881 exterior was characterized in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP) requirements as part of the Building 881 Cluster RLCR completed November 6, 2001. All of the exterior surveys performed during the Building 881 Cluster RLCR were less than the applicable PDS uranium DCGL values. Additional confirmatory surveys of Building 881 exterior were performed during the 881 interior PDS survey, and all results were also less than the applicable PDS transuranic and uranium DCGL values. Additionally, interior 1st floor and 1st floor mezzanine confirmatory surveys (large area swipes and 100cm² area swipes) have been performed of all accessible areas. Refer to Attachment B-3, *881 Confirmatory Surveys, Radiological Data and Survey Maps* for the building exterior and interior confirmatory radiological survey data, survey locations, and radiological maps.

3.5 PDS Planning and Preparation

Building 881 was characterized for radiological hazards per the PDSP. Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on the facility surfaces. Measurements were performed to evaluate the contaminants of concern. Based upon a review of the RLC, historical and process knowledge, building walk-downs, in-process survey and sample results, and MARSSIM guidance, a Radiological Characterization Plan was developed during the planning phase that describes the minimum survey requirements (refer to the RISS Characterization Project files for the 881 Radiological Characterization Plan).

Building 881 radiological survey unit packages were developed in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure*. Refer to Attachment B-4, *881 Survey Unit Maps* for the locations of these survey units. Total surface activity (TSA), removable surface activity (RSA), and scan measurements were collected in accordance with RSP 16.02 *Radiological Surveys of Surfaces and Structures*. Radiological survey data were verified, validated and evaluated in accordance with RSP 16.04, *Radiological Survey/Sample Data Analysis*. Quality control measures were implemented relative to the survey process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control*. Individual radiological survey unit packages are maintained in the RISS Characterization Project files.

3.6 PDS Survey Results

The table below summarizes the PDS radiological survey data by Survey Unit:

All final "as left" PDS radiological survey results were less than the applicable PDSP unrestricted release limits. Radiological survey unit data, statistical analysis results, survey locations and radiological scan maps are presented in Attachment B-5 *Radiological Survey Unit Data Summary and Survey Maps*. To ensure the facility remains free of further contamination and PDS data remain valid, Level 1-Isolation Controls have been established and the areas posted accordingly.

B881 Survey Unit Breakdown Table

Survey Area (MU)	Survey Unit	Isotope Area	MARSSIM Class	Description	Floor (m2)	Total (m2)	TSAs (minimum)	RSAs (minimum)	% Scan (minimum)	Scan (m2) (minimum)	Survey Unit Class Justification
A	881A01	Uranium	1	MU-A, Room 137 floor	485	485	85-systematically grid, 5-QC	85-systematically grid	100%	485	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .
A	881A02	Uranium	2	MU-A, Room 137 walls and ceilings	485	915	16-systematically grid, 2-QC	16-systematically grid	25%	229	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGL _w .
A	881A03	Uranium	1	MU-A, Rooms 112, 113, 125, 127, 130, 138, 139 & 151 floor	658	658	107-systematically grid, 3-biased 6-QC	107-systematically grid, 3-biased	100%	658	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .
A	881A04	Uranium	2	MU-A, Rooms 112, 113, 125, 127, 130, 138, 139 & 151 walls and ceiling	658	904	16-systematically grid, 2-QC	16-systematically grid	25%	226	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGL _w .
A	881A05	Uranium	1	MU-A, Room 112 Electrical Chase, All Surfaces	9	50	16-systematically grid, 2-QC	16-systematically grid	100%	50	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .
E	881E01	Uranium	1	MU-E Room 154, floor	168	168	31-systematically grid, 2-QC	31-systematically grid	100%	168	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .
E	881E02	Uranium	2	MU-E Room 154, walls and ceilings	168	333	20-systematically grid, 2-QC	20-systematically grid	50%	167	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGL _w .
E	881E03	Uranium	1	MU-E Rooms 114A-114F, floor	559	559	86-systematically grid, 5-QC	86-systematically grid	100%	559	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .
E	881E04	Uranium	2	MU-E Rooms 114A - 114F, walls and ceilings	559	1,022	20-systematically grid, 2-QC	20-systematically grid	25%	256	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGL _w .
E	881E06	Uranium	1	MU-E Rooms 115A-F, floor	365	365	60-systematically grid, 3-QC	60-systematically grid	100%	365	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .
E	881E07	Uranium	2	MU-E Room 115A-F, walls and ceilings	365	720	16-systematically grid, 2-biased 2-QC	16-systematically grid, 2-biased	25%	180	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGL _w .

B881 Survey Unit Breakdown Table

Survey Area (MU)	Survey Unit	Isotope Area	MARSSIM Class	Description	Floor (m2)	Total (m2)	TSA's (minimum)	RSAs (minimum)	% Scan (minimum)	Scan (m2) (minimum)	Survey Unit Class Justification
E	881E08	Uranium	1	MU-E Rooms 143A-H, floor	372	372	58-systematically grid, 4-QC	58-systematically grid	100%	372	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .
E	881E09	Uranium	2	MU-E Room 143A-H, walls and ceilings	372	611	20-systematically grid, 2-QC	20-systematically grid	25%	154	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGL _w .
E	881E10	Uranium	1	Room 199 and Vent, All Surfaces	42	174	20-systematically grid, 2-QC	20-systematically grid	100%	174	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .
H	881H01	Uranium	1	MU-H Rooms 160, 169, 170, 171; floor	509	509	78-systematically grid, 4-QC	78-systematically grid	100%	509	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .
H	881H02	Uranium	2	MU-H Rooms 160, 169, 170, 171; walls and ceilings	509	1,001	25-systematically grid, 2-QC	25-systematically grid	50%	501	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGL _w .
H	881H04	Uranium	1	MU-H Rooms 161, 168; floors, walls and ceiling	547	1,968	95-systematically grid, 5-QC	95-systematically grid	100%	1968	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .
I	881I01	Uranium	1	ST1 Exhaust Tunnel, floor	95	95	20-systematically grid, 2-QC	20-systematically grid	100%	95	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .
I	881I02	Uranium	2	ST1 Exhaust Tunnel, walls and ceiling	95	335	17-systematically grid, 2-QC	17-systematically grid	25%	84	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGL _w .
I	881I03	Uranium	1	MU-I Rooms 108, 109, 110, 117, 118, 119 & 153 Floors	539	539	91-systematically grid, 5-QC	91-systematically grid	100%	539	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .
I	881I04	Uranium	2	MU-I Rooms 108, 109, 110, 117, 118, 119 & 153 Walls and Ceiling	539	871	18-systematically grid, 2-QC	18-systematically grid	25%	218	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGL _w .
I	881I05	Uranium	1	MU-I Rooms 101, 102, 103, 104, 110 & 110C Floors	1,113	1,113	186-systematically grid, 10-QC	186-systematically grid	100%	1113	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGL _w .

B881 Survey Unit Breakdown Table

Survey Area (MU)	Survey Unit	Isotope Area	MARSSIM Class	Description	Floor (m2)	Total (m2)	TSAs (minimum)	RSAs (minimum)	% Scan (minimum)	Scan (m2) (minimum)	Survey Unit Class Justification
I	881I06	Uranium	2	MU-I Rooms 101, 102, 103, 104, 110 & 110C Walls and Ceiling	1,113	1,958	23-systematically grid, 2-QC	23-systematically grid	25%	490	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGLW.
I	881I07	Uranium	1	MU-I Room 116 Floor	245	245	64-systematically grid, 4-QC	64-systematically grid	100%	245	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGLW.
I	881I08	Uranium	2	MU-I Room 116 Walls and Ceiling	245	609	23-systematically grid, 2-QC	23-systematically grid	25%	153	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGLW.
I	881I09	Uranium	1	MU-I Room 144 North Floor	346	346	60-systematically grid, 3-QC	60-systematically grid	100%	346	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGLW.
I	881I10	Uranium	2	MU-I Room 144 North walls and ceiling	346	536	17-systematically grid, 2-QC	17-systematically grid	25%	134	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGLW.
K	881K01	Uranium	1	MU-K, Rooms 122A - 122D Floors	168	168	28-systematically grid, 2-QC	28-systematically grid	100%	168	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGLW.
K	881K03	Uranium	1	MU-K, Rooms 121, 145 & 147 Floors	641	641	102-systematically grid, 1-biased 6-QC	102-systematically grid, 1-biased	100%	641	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGLW.
K	881K04	Uranium	2	MU-K, Rooms 121, 145 & 147 Walls and Ceiling	641	808	23-systematically grid, 4-biased 2 QC	23-systematically grid, 4-biased	25%	202	Area had, prior to remediation, a potential for radioactive contamination, or known contamination, but was not expected to exceed the DCGLW.
K	881K05	Uranium	1	MU-K, Rooms 121, Manhole Pit, All surfaces	2	15	16-systematically grid, 2-QC	16-systematically grid	100%	15	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGLW.
M	881M05	Uranium	1	MU-M Rooms 162, 163, 164, 165 & 166 floor, walls and ceiling	234	724	51-systematically grid, 1-biased 3-QC	51-systematically grid, 1-biased	100%	724	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGLW.
M	881M06	Uranium	1	MU-M Rooms 144A & 144 South floor, walls and ceiling	342	566	93-systematically grid, 6-QC	93-systematically grid	100%	566	Area had, prior to remediation, a potential for radioactive contamination, or known contamination above the DCGLW.

4 CHEMICAL CHARACTERIZATION AND HAZARDS

Building 881 was characterized for chemical hazards per the PDSP. Chemical characterization was performed to determine the nature and extent of chemical contamination that may be present on, or in Building 881. Based upon a review of historical and process knowledge, visual inspections, and PDSP DQOs, additional sampling needs were determined. A Chemical Characterization Plan was developed during the planning phase that describes sampling requirements and the justification for the sample locations and estimated number of samples. The contaminants of concern were asbestos, beryllium, metals, RCRA/CERCLA constituents and polychlorinated biphenyls (PCBs). Refer to Attachment C, *Chemical Summary Data and Sample Maps*, for details on sample results and sample locations. Level 1 Isolation Control postings are displayed on affected structures to ensure no hazardous materials are introduced.

4.1 Asbestos

A survey of building materials suspected of containing asbestos was conducted before and during in-process stripout and decontamination. A CDPHE-certified asbestos inspector conducted the inspections and sampling in accordance with the *Asbestos Characterization Protocol, PRO-563-ACPR, Revision 1*. Building materials suspected of containing asbestos were identified for sampling at the discretion of the inspector. Prior to the PDS, friable and non-friable asbestos abatement and satisfactory clearance sampling was conducted per CDPHE, Regulation No. 8, Part B, *Emission Standards for Asbestos*. Cinderblock walls containing non-friable asbestos block filler remain in portions of the building as fill in the 881 basement and pit areas in accordance with the RFCA Contact Record (refer to RFETS Contact Record prepared by Steve Nesta on August 21, 2003). Also, small quantities of mastic remain in portions of the building and will be used as fill in the 881 basement. On this basis, no additional asbestos sampling was required or performed as part of the PDS.

4.2 Beryllium (Be)

During the in-process stripout and decontamination phase of the 881 project, all areas containing loose beryllium contamination were decontaminated to below the unrestricted release limit of $0.2 \mu\text{g}/100\text{cm}^2$. The use of fixatives was not necessary to decontaminate the areas below the unrestricted release limit. Since Building 881 was on the list of Known Beryllium Areas, both random and biased PDS sampling was required. Once the areas were de-posted from beryllium controls and the areas were isolated from the adjacent work areas, random and biased beryllium PDS swipes were collected. In addition to the random and biased PDS swipes, 152 in-process de-posting beryllium swipes are also included in the below PDS Beryllium Results Summary Table, as biased swipe data.

Building 881 was sub-divided into five (5) Beryllium Areas per the PDSP. The five (5) areas are: 1) second floor mezzanine and 881/883 tunnel, 2) second floor, 3) first floor mezzanine, 4) first floor, and 5) basement. Random and biased beryllium smear samples were collected in Building 881 in accordance with the PDSP and the *Beryllium Characterization Procedure, PRO-536-BCPR, Revision 0, September 9, 1999*. The table below summarizes the "as left" PDS beryllium swipe data for the 1st floor and 1st floor

mezzanine. All beryllium PDS swipe results were less than the action levels of 0.2 $\mu\text{g}/100\text{cm}^2$ and 0.1 $\mu\text{g}/100\text{cm}^2$.

Detailed PDS beryllium laboratory swipe data and location maps are contained in Attachment C-1, *PDS Beryllium Data Summary and Sample Maps*. Detailed in-process biased beryllium laboratory swipe data are contained in Attachment C-2, *In-process Biased Beryllium Data*.

881 PDS Beryllium Summary Table

Beryllium Area	Random Swipes Required	Random Swipes Collected	Biased Swipes Collected	Swipes Results
1 st Floor & 1 st Mezzanine	61	93	88	All swipe results below PDS action levels
In-process - 1 st Floor & 1 st Mezzanine	0	0	152	All swipe results below PDS action levels
Totals	61	93	240	All swipe results below PDS action levels

4.3 RCRA/CERCLA Constituents [including metals and volatile organic compounds (VOCs)]

Based on the *Reconnaissance Level Characterization Report for the Building 881 Cluster*, dated November 6, 2001, and personnel interviews, facility walk-downs, in-process sample data, and a review of historical WEMS/WSRIC processes, Building 881 did not contain evidence of RCRA/CERCLA contamination. However, during the Building 881 RLC, RCRA/CERCLA sampling was performed for metals, VOCs and SVOCs. Based on this sampling, various EPA waste codes were assigned to certain areas of the floors in Rooms 143A and 113. However, EPA code F003 should not have been applied to either room, as the concrete is not ignitable. The referenced visible staining in both rooms was removed through routine decontamination procedures. Additionally, EPA codes F001, F002, and F005 are not applicable to the stained area in Room 143A as the levels detected were below the RFCA Attachment 5 Groundwater Tier II Action Levels, except for methylene chloride. However, since the laboratory blank had levels of methylene chloride above those detected in the samples, these results are considered invalid due to laboratory contamination. All results were less than the regulatory limits confirming Building 881 is not contaminated by RCRA/CERCLA constituents.

All of the ancillary equipment associated with permitted RCRA Storage Unit 887.2 was removed from Building 881 and appropriately managed and disposed of as LLM waste. All other temporary storage areas that may have been managed RCRA regulated waste were evaluated and no additional closure activities were required. Closure of RCRA Storage Unit 887.2 cannot be completed until Building 887 meets clean closure criteria or is removed and disposed of per RCRA regulations, which will be addressed in the PDSR for Building 887. Therefore, no additional RCRA/CERCLA sampling was required or performed as part of the PDS.

The building may have contained some RCRA regulated items, such as mercury thermostats, fluorescent light bulbs, mercury vapor light bulbs, mercury containing gauges, circuit boards, and lead-acid batteries. However, these items have been removed and managed in accordance with the Colorado Hazardous Waste Act.

4.4 Polychlorinated Biphenyls (PCBs)

Based on the HSAR for the Building 881, personnel interviews, facility walk-downs and a review of historical WSRIC processes, Building 881 did house machinery containing PCB oil. As part of the removal of equipment from the pits, oil was drained from several machines and containerized. Because one of the oil containers tested positive for PCBs, RLC concrete core sample were collected and analyzed to check oil-stained areas beneath the equipment. All results were below 1.0 ppm confirming the lack of PCB contamination in Building 881. Therefore, no additional PCB sampling was required or performed as part of the PDS.

Demolition concrete rubble will be used for backfill on-site per the RFCA Recycling Concrete RSOP. This concrete rubble material meets the unrestricted release criteria of the RSOP for Facility Disposition (specific to 40CFR 761.62c). All remaining Building 881 building materials are inert.

5 PHYSICAL HAZARDS

Physical hazards associated with Building 881 consists of those common to standard industrial environments, and include hazards associated with energized systems, utilities, and trips and falls. There are several below-grade levels in the building and a below-grade tunnel leading to Building 883. The facility has been relatively well maintained and is in good physical condition, therefore, does not present hazards associated with building deterioration. Physical hazards are controlled by the Site Occupational Safety and Industrial Hygiene Program, which is based on OSHA regulations, DOE orders, and standard industry practices.

6 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of Building 881, and consequent waste management, is of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments B and C) were verified and validated relative to DOE quality requirements, applicable EPA guidance, and original project DQOs.

In summary, the Verification and Validation (V&V) process corroborates that the following elements of the characterization process are adequate:

- ◆ the *number* of samples and surveys;
- ◆ the *types* of samples and surveys;
- ◆ the sampling/survey process as implemented "in the field"; and
- ◆ the laboratory analytical process, relative to accuracy and precision considerations.

Details of the DQA are provided in Attachment D.

7 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The decommissioning of Building 881 will not generate any wastes. All remaining Building 881 building materials are inert. PCB ballasts and other hazardous waste items have been removed and managed pursuant to Site PCB and waste management procedures. Demolition concrete rubble will be used for backfill on-site per the RFCA Recycling Concrete RSOP and approval obtained from EPA in 2001 letter *RE: Approval of the Risk-Based Approach for Polychlorinated Biphenyls (PCB) – Based Painted Concrete*.

There will be approximately 9,000 cubic yards of concrete recycle material, and 2,000 cubic yards of various metal, and 6 cubic yard of stainless flooring material that will be buried in place during the demolition of Building 881. The amount of metal is considered de minimis with respect to the 100,000 cubic yards of fill that will be required to bring the Building 881 Project Area to final grade, and has been addressed in the Facility Disposition RSOP Notification for the Building 881 demolition.

Cinderblock walls containing non-friable asbestos block filler remain in portions of the building as fill in the 881 basement and pits areas in accordance with the RFCA Contact Record (refer to RFETS Contact Record prepared by Steve Nesta on August 21, 2003). Also, small quantities of mastic remain in portions of the building and will be used as fill in the 881 basement. Locations and approximate quantities of non-friable asbestos block filler and mastic are as follows:

Block Filler

South Wall of Room 114	2,000 sf
Upper Walls of Elevator Room 159D	400 sf
Interior Wall Separating Rooms 283/283A	200 sf
Perimeter Walls of 250/250A/259/259A	800 sf

Mastic:

Wall Adhesive Pucks in Room 104 (assumed-ACM)	600 sf
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8 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, Building 881 1st Floor and 1st Floor Mezzanine is classified as a RFCA Type 2 Facility pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999) and is ready for demolition. The PDS for the Building 881 1st Floor and 1st Floor Mezzanine was performed in accordance with the DDCP and PDSP, all PDSP DQOs were met, and all data satisfied the PDSP DQA criteria. Environmental media beneath and surrounding the facilities will be addressed at a future date in accordance with the Soil Disturbance Permit process and in compliance with RFCA.

Final "as left" PDS results indicated that radiological, beryllium, RCRA/CERCLA constituents and PCBs do not exist in excess of the PDSP unrestricted release limits. PCB ballasts, and other hazardous waste items (e.g., mercury thermostats, fluorescent light bulbs, mercury vapor light bulbs, mercury-containing gauges, circuit boards, leaded glass, and lead-acid batteries) have been removed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations. All remaining Building 881 building materials are inert.

Asbestos abatement was conducted in Building 881 prior to the PDS. Friable and non-friable asbestos containing building materials were removed per CDPHE, Regulation No. 8, Part B, *Emission Standards for Asbestos*. Cinderblock walls containing non-friable asbestos block filler remain in portions of the building and will be used as fill in the 881 basement and pit areas in accordance with the RFCA Contract Record (refer to RFETS Contract Record prepared by Steve Nesta on August 21, 2003). In addition, small quantities of mastic remain in portions of the building and will be used as fill in the 881 basement.

Based upon this PDSR, Building 881 1st Floor and 1st Floor Mezzanine can be demolished. To ensure that the facility remains free of further contamination and that PDS data remain valid, Level 1-Isolation Controls have been established, and the area posted accordingly.

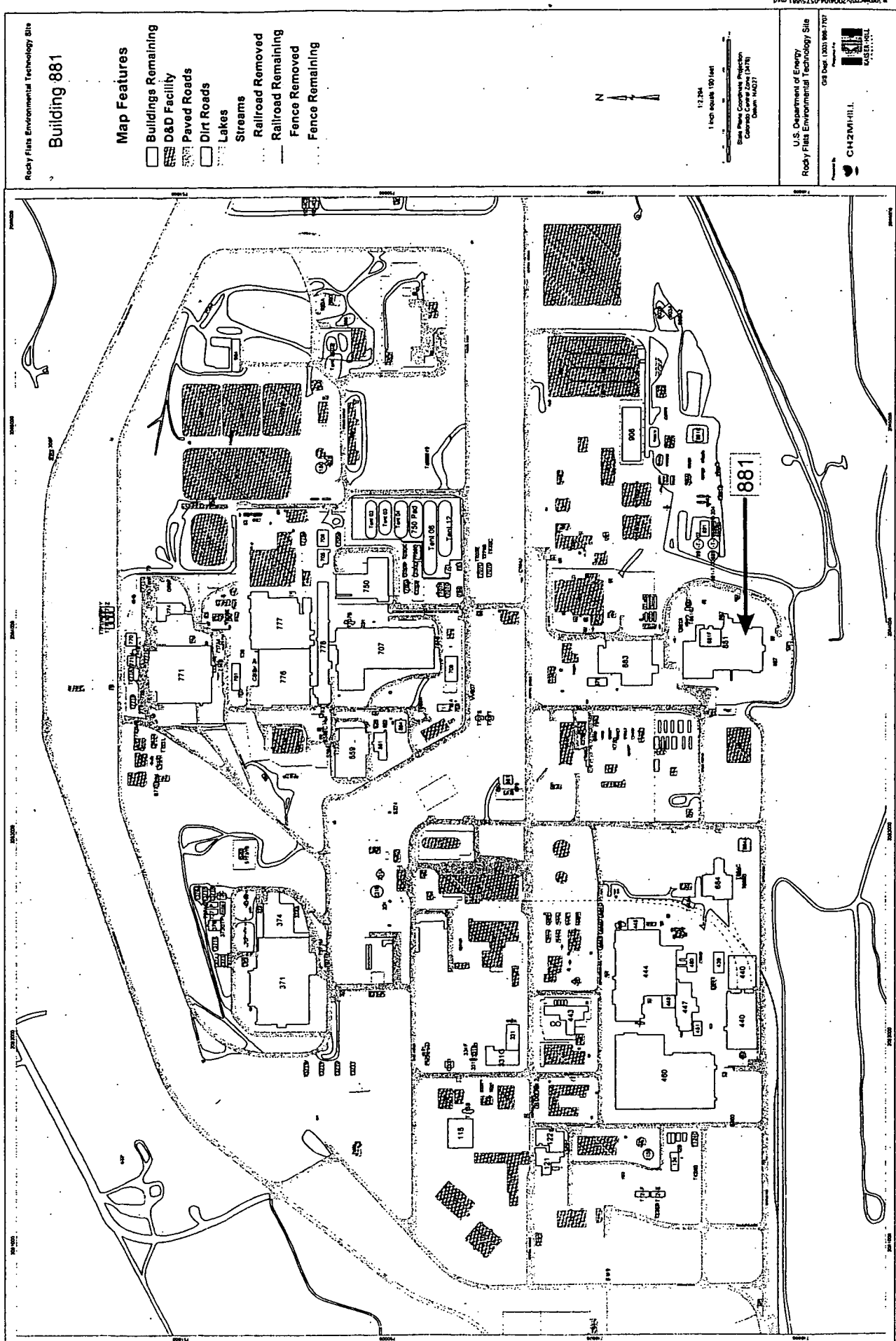
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- MAN-127-PDSP, *Pre-Demolition Survey Plan for D&D Facilities*, Rev. 1, July 15, 2002.
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- PRO-476-RSP-16.02, *Pre-Demolition (Final Status) Radiological Surveys of Surfaces and Structures*, Rev. 1, May 22, 2001.
- PRO-477-RSP-16.03, *Radiological Samples of Building Media*, Rev. 1, May 22, 2001.
- PRO-478-RSP-16.04, *Radiological Survey/Sample Data Analysis for Final Status Survey*, Rev. 1, May 22, 2001.
- PRO-479-RSP-16.05, *Radiological Survey/Sample Quality Control for Final Status Survey*, Rev. 1, May 22, 2001.
- PRO-563-ACPR, *Asbestos Characterization Procedure*, Revision 0, August 24, 1999.
- PRO-536-BCPR, *Beryllium Characterization Procedure*, Revision 0, August 24, 1999.
- RFETS, *Environmental Waste Compliance Guidance #25, Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition*.
- RFETS, *Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal*.
- RFETS, *RFCA RSOP for Recycling Concrete*, September 28, 1999
- Reconnaissance Level Characterization Report for the Building 881 Cluster*, Dated November 6, 2001, Revision 0.
- Building 881 Historical Site Assessment Report*, incorporated as part of the Building 881 Cluster RLCR, dated July 2001.

ATTACHMENT A

Facility Location Map

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ATTACHMENT B-1

MEDIA SAMPLE RESULTS TABLE AND SAMPLE LOCATION MAP

**Building 881 1st Floor and 1st Floor Mezzanine
Media Sample Results Table**

Map Location	Room	Location Description	Uranium Result (dpm/100cm2)	Transuranic Result (dpm/100cm2)
10	113A	Wall, up 6'	135.0	1.6
11	113A	Wall, up 6'	59.2	0.3
12	113C	Wall, up 3'	56.4	31.9
13	113C	Floor	195.4	0.5
14	112A	Wall, up 4'	37.8	5.5
15	112A	Wall, up 6'	35.8	10.0
16	113	Wall, up 3'	26.4	0.0
17	112	Wall, up 2'	49.4	0.8
18	112	Floor	2,199.9	65.9
19	112	Column, up 9'	29.9	2.5
20	112	Column, up 9'	22.1	1.8
21	112	Floor	677.8	9.0
22	113	Wall, up 3'	18.1	1.5
23	113	Wall, up 4'	19.0	1.0
24	113	Floor	43.8	3.0
40	154A-K	Ceiling	1,012.8	0.0
41	154A-K	Ceiling	106.7	0.0
42	154A-K	Ceiling	106.7	0.0
43	154A-K	Ceiling	379.7	0.0
44	154A-K	Wall, up 5'	379.7	0.0
45	154A-K	Wall, up 4'	379.7	0.0
46	154A-K	Wall, up 7'	379.7	0.0
47	154A-K	Wall, up 7'	2,002.2	0.0
48	154A-K	Wall, up 1'	2,002.2	0.0
49	154A-K	Wall, up 3'	1,878.6	0.0
50	154A-K	Wall, up 3'	1,878.6	0.0
51	154A-K	Wall, up 1'	135.3	0.0
52	154A-K	Wall, up 4'	2,002.2	0.0
53	154A-K	Wall, up 3'	135.3	0.0
54	154A-K	Wall, up 3'	1,878.6	0.0
55	154A-K	Floor	1,911.6	0.0
56	154A-K	Floor	2,318.3	0.0
57	154A-K	Floor	2,318.3	0.0
58	154A-K	Floor	3,249.4	0.0
59	154A-K	Floor	211.8	0.0
60	179C stairwell	Wall, up 1'	89.8	0.0
61	179C stairwell	Wall, up 1'	1,032.5	0.0
62	179C stairwell	Wall, up 6'	89.8	0.0
63	179C stairwell	Wall, up 5'	66.7	0.0
64	ST1E	Floor	967.5	8.8
65	ST1E	Floor	1,146.1	2.6
66	ST1E	Floor	4,001.3	0.0
67	ST1E	Floor	3,871.2	0.0
68	ST1E	Wall, up 1'	4,001.3	0.0
69	ST1E	Ceiling	4,001.3	0.0
70	ST1E	Wall, up 3'	2,992.9	0.0
71	ST1E	Floor	4,081.3	45.6
72	ST1E	Wall, up 7'	291.7	0.0

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**Building 881 1st Floor and 1st Floor Mezzanine
Media Sample Results Table**

Map Location	Room	Location Description	Uranium Result (dpm/100cm2)	Transuranic Result (dpm/100cm2)
74	ST1E	Ceiling	81.3	0.0
75	ST1E	Wall, up 1'	70.5	0.0
76	ST1E	Wall, up 3'	2,028.7	0.0
77	ST1E	Floor	2,110.2	0.0
78	ST1E	Wall, up 4'	126.3	0.0
79	143B	Wall, up 1'	2,161.8	0.0
80	143C	Wall	2,161.8	0.0
81	143A	Floor	2,161.8	0.0
82	143A	Floor	2,161.8	0.0
83	143A	Wall	2,161.8	0.0
84	143A	Wall	2,635.6	0.0
85	143A	Wall	2,635.6	0.0
86	143A	Floor	2,737.0	0.0
87	143	Wall, up 7'	1,556.6	0.0
88	115	Wall	28.8	0.0
89	115A	Wall	1,556.6	0.0
90	115A	Ceiling	2,635.6	0.0
91	115A	Floor	10.6	0.0
92	115	Floor	2,737.0	0.0
93	115	Floor	782.3	0.0
94	115	Wall	2,737.0	0.0
95	115	Wall	2,845.6	0.0
96	115	Floor	100.1	0.0
97	115	Wall	2,845.6	0.0
98	115E	Floor	2,845.6	0.0
99	115E	Wall	741.0	0.0
100	115D	Wall	741.0	0.0
101	115D	Floor	4,110.5	0.0
102	115C	Wall	4,110.5	0.0
103	115C	Floor	4,110.5	0.0
104	115B	Floor	741.0	0.0
105	115	Wall	3,187.8	0.0
106	114	Wall	3,187.8	0.0
107	114	Floor	0.0	0.0
108	114	Floor	0.0	0.0
109	114B	Wall	1,299.1	0.0
110	114E	Wall	4,952.9	0.0
111	114	Floor	2,250.0	0.0
112	114C	Wall	3,381.7	0.0
113	114D	Wall	3,381.7	0.0
114	114D	Wall	2,250.0	0.0
115	114D	Floor	2,250.0	0.0
116	114	Floor	2,250.0	0.0
117	114	Floor	112.4	0.0
118	114	Wall	3,187.8	0.0
119	114F	Wall	112.4	0.0
120	114	Wall	112.4	0.0
121	114	Wall	112.4	0.0

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**Building 881 1st Floor and 1st Floor Mezzanine
Media Sample Results Table**

Map Location	Room	Location Description	Uranium Result (dpm/100cm2)	Transuranic Result (dpm/100cm2)
122	114	Wall	922.5	0.0
123	114	Wall	1,583.8	0.0
124	114D	Wall	922.5	0.0
125	114D	Wall	1,583.8	0.0
126	114D	Ceiling	922.5	0.0
127	114	Ceiling	1,583.8	0.0
128	115	Ceiling	1,583.8	0.0
129	144	Floor	3,138.6	0.0
130	144	Floor	3,138.6	0.0
131	144	Floor	3,138.6	0.0
132	144	Floor	3,138.6	0.0
133	144	Floor	1,956.9	0.0
134	144	Floor	1,956.9	0.0
136	144	Wall, up 12'	211.7	0.0
137	144	Wall, up 1'	211.7	0.0
138	144	Wall, up 5'	1,956.9	0.0
139	144	Wall, up 5'	156.9	0.0
140	144	Wall, up 1'	4,154.4	0.0
141	144	Column, up 4'	2,513.1	0.0
142	144	Column, up 3'	580.1	0.0
143	144	Column, up 4'	580.1	0.0
144	144	Ceiling	580.1	0.0
145	144	Ceiling	2,548.0	0.0
146	144	Ceiling	580.1	0.0
147	144	Ceiling	2,548.0	0.0
148	144	Ceiling	2,548.0	0.0
149	ST1E	Wall, up 5'	649.0	9.9
169	169	Wall, up 4'	3,242.0	0.0
170	160	Wall, up 1'	3,242.0	0.0
171	160	Wall, up 1'	336.0	0.0
172	160	Wall, up 8'	2,604.9	0.0
173	160	Wall, up 6'	2,604.9	0.0
174	171	Wall, up 1'	3,680.6	0.0
175	171	Wall, up 4'	3,680.6	0.0
176	171A	Wall, up 4'	2,601.6	0.0
177	170A	Wall, up 4'	2,601.6	0.0
178	170	Wall, up 3'	212.0	0.0
179	170	Ceiling	212.0	0.0
180	171	Ceiling	212.0	0.0
181	160	Ceiling	2,368.3	0.0
182	160	Ceiling	2,368.3	0.0
183	169	Ceiling	2,368.3	0.0
194	121	Floor	1,922.4	35.2
195	122D	Wall	186.6	15.9
196	122	Wall	143.5	5.0
198	122D	Floor	550.2	7.5
199	122D	Floor	226.7	14.9
205	111B	Floor	120.1	0.0

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**Building 881 1st Floor and 1st Floor Mezzanine
Media Sample Results Table**

Map Location	Room	Location Description	Uranium Result (dpm/100cm2)	Transuranic Result (dpm/100cm2)
487	110X	Wall, up 4'	2,201.4	0.0
488	110B	Column, up 1'	2,201.4	0.0
490	116	Wall, up 1.5'	140.4	0.0
491	116	Wall, up 3'	140.4	0.0
492	116	Wall, up 4'	2,845.0	0.0
493	116	Wall, up 1.5'	1,627.0	0.0
494	116	Column, up 10'	1,627.0	0.0
495	116	Wall, up 5'	1,627.0	0.0
496	116	Wall, up 3'	140.4	0.0
497	116	Wall, up 1'	1,627.0	0.0
498	107	Column, up 4'	1,972.0	0.0
499	107	Wall, up 4'	1,972.0	0.0
500	107	Wall, up 4'	1,972.0	0.0
501	101	Wall, up 5'	1,627.0	0.0
502	101	Wall, up 1'	2,283.3	0.0
503	101	Wall, up 2'	2,283.3	0.0
504	101	Wall, up 2'	2,283.3	0.0
505	110F	Wall, up 3'	2,283.3	0.0
506	110F	Update map	2,283.3	0.0
507	107	Update map	1,810.3	0.0
508	110B	Wall, up 4'	1,810.3	0.0
509	110C	Wall, up 5'	140.4	0.0
510	110C	Update map	1,810.3	0.0
511	108	Column, up 10'	1,810.3	0.0
512	108	Column, up 4'	1,810.3	0.0
513	108	Wall	1,972.0	0.0
514	108	Wall	1,810.3	0.0
515	108	Wall	2,173.9	0.0
516	110K	Wall	2,173.9	0.0
517	108	Ceiling	1,810.3	0.0
518	108A	Wall, up 5'	2,173.9	0.0
519	110E	Wall, up 10'	2,173.9	0.0
520	110E	Wall, up 6'	1,618.2	0.0
521	110H	Wall, up 4'	1,618.2	0.0
522	116	Wall, up 1'	1,810.3	0.0
523	116	Wall, up 3'	1,618.2	0.0
524	122	Wall, up 4'	832.8	0.0
526	113	Wall, up 1'	140.4	0.0
527	139	Wall, up 4'	140.4	0.0
528	125D	Wall, up 3'	140.4	0.0
529	137E	Wall, up 6'	1,939.4	0.0
535	144A	Wall	1,667.2	21.4
540	144	Floor	3,016.4	5.1
653	ST1E	Floor	4,819.0	30.3
654	ST1E	Floor	1,263.2	0.0
655	ST1E	Floor	2,630.3	0.0
684	137	Floor	3,369.3	0.0
685	137	Floor	3,369.3	0.0

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**Building 881 1st Floor and 1st Floor Mezzanine
Media Sample Results Table**

Map Location	Room	Location Description	Uranium Result (dpm/100cm2)	Transuranic Result (dpm/100cm2)
686	137	Floor	3,369.3	0.0
687	137	Floor	3,369.3	0.0
688	137E	Floor	2,630.7	0.0
689	137A	Floor	2,630.7	0.0
690	137D	Floor	2,630.7	0.0
691	131	Floor	2,630.7	0.0
692	131D	Floor	3,775.6	0.0
693	127	Floor	2,630.7	0.0
694	125E	Floor	3,775.6	0.0
695	125	Floor	3,775.6	0.0
696	113C	Floor	3,775.6	0.0
697	112A	Floor	3,501.2	0.0
698	112	Floor	3,501.2	0.0
699	113	Floor	3,501.2	0.0
700	113	Floor	3,501.2	0.0
701	113	Floor	2,522.9	0.0
702	113B	Floor	3,501.2	0.0
703	113A	Floor	1,332.3	0.0
704	104	Floor	1,725.7	0.0
705	101	Floor	1,725.7	0.0
706	101	Floor	1,725.7	0.0
707	101	Floor	1,895.7	0.0
708	102	Floor	1,895.7	0.0
709	116	Floor	1881.5	0.0
710	107	Floor	1881.5	0.0
711	107	Floor	2,756.8	0.0
712	110	Floor	1881.5	0.0
713	110B	Floor	2,756.8	0.0
714	110B	Floor	2,756.8	0.0
715	110B	Floor	1,895.7	0.0
716	110B	Floor	2,756.8	0.0
717	110B	Floor	1,501.2	0.0
718	116	Floor	1,501.2	0.0
723	116	Floor	2,626.9	0.0
724	116	Floor	67.1	0.0
739	168	Floor	2,080.5	0.0
740	168	Floor	5,954.6	0.0
741	168	Floor	5,954.6	0.0
742	169	Floor	839.9	0.0
743	160	Floor	3,774.0	0.0
744	160	Floor	3,774.0	0.0
745	169	Floor	3,774.0	0.0
746	171A	Floor	3,774.0	0.0
747	169	Floor	1,675.2	0.0
748	161	Floor	1,675.2	0.0
749	161	Floor	3,261.6	0.0
750	161	Floor	3,261.6	0.0
751	161	Floor	2,490.2	0.0

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**Building 881 1st Floor and 1st Floor Mezzanine
Media Sample Results Table**

Map Location	Room	Location Description	Uranium Result (dpm/100cm2)	Transuranic Result (dpm/100cm2)
752	161	Floor	2,490.2	0.0
753	116	Floor	3,352.1	0.0
754	144	Floor	3,352.1	0.0
763	139	Floor	292.1	0.0
764	143B	Floor	2,249.5	0.0
765	143D	Floor	2,249.5	0.0
766	143F	Floor	2,249.5	0.0
768	114	Floor	205.3	0.0
769	114	Floor	143.5	0.0
828	114A	Floor	7.9	0.0
830	114A	Floor	7.0	0.0
831	114A	Floor	11.3	0.0
909	114A	Floor	1,673.6	0.0
910	162	Wall	1,292.9	0.0
911	163	Wall	6.6	0.0
915	121	Ceiling	120.4	0.0
916	122	Ceiling	-	0.0
917	122A	Ceiling	49.6	0.0
918	162	Floor	2,416.6	0.0
919	162	Floor	9.2	0.0
920	163	Floor	63.9	0.0
921	122	Floor	55.4	0.0
922	122	Floor	27.2	0.0
923	122	Floor	105.6	0.0
924	122	Column up 1'	80.8	0.0
925	122	Floor	0.0	0.0
926	121	Column up 1'	13.2	0.0
927	121	Floor	0.0	0.0
928	121	Floor	24.9	0.0
929	121	Floor	1,029.3	0.0
930	121	Column up 1'	1,337.4	0.0
931	121	Column up 1'	847.5	0.0
935	144A	Floor	4,823.8	0.0

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ATTACHMENT B-2

STAINLESS STEEL FLOORING SURVEY/SAMPLE RESULTS TABLE AND SURVEY/SAMPLE LOCATION MAPS

**B881 1st Floor Underneath Stainless Steel Flooring
Survey and Sample Results**

UNDERNEATH STAINLESS STEEL FLOOR SURVEY RESULTS				UNDERNEATH SS FLOOR CONCRETE SAMPLE RESULTS	
Sample #	Location	Removable	Total	Uranium	Transuranics
		Alpha dpm/100cm ²	Alpha dpm/100cm ²	dpm/100cm ²	dpm/100cm ²
27	ROOM 114	2.3	0.0	N/A	N/A
29	ROOM 114D	5.2	60.0	N/A	N/A
30	ROOM 114F	0.0	0.0	N/A	N/A
31	ROOM 114C	8.1	0.0	N/A	N/A
34	ROOM 114D	0.0	0.0	N/A	N/A
89	ROOM 110H	8.8	36.5	N/A	N/A
91	ROOM 114	1.5	36.9	N/A	N/A
92	ROOM 114B	1.5	55.3	N/A	N/A
93	ROOM 109	2.7	72.5	N/A	N/A
94	ROOM 108A	5.8	9.5	N/A	N/A
95	ROOM 108	2.7	47.4	N/A	N/A
96	ROOM 108	-0.3	9.5	N/A	N/A
97	ROOM 108C	5.8	0.0	N/A	N/A
106	ROOM 114B	5.8	53.6	N/A	N/A
107	ROOM 114B	11.8	39.3	N/A	N/A
115	ROOM 114A	-0.3	22.2	N/A	N/A
120	Room 199 Walls	2.7	26.0	N/A	N/A
121	Room 199 Walls	-0.3	36.5	N/A	N/A
122	Room 199 Walls	-0.3	28.8	N/A	N/A
123	Room 199 Walls	9.1	41.1	N/A	N/A
124	Room 199 Walls	0.0	50.2	N/A	N/A
125	Room 199 Walls	0.0	38.4	N/A	N/A
126	Room 199 Walls	3.0	50.2	N/A	N/A
127	Room 199 Walls	3.0	10.5	N/A	N/A
128	Room 199 Walls	0.0	26.0	N/A	N/A
129	Room 199 Walls	0.0	18.3	N/A	N/A
130	Room 199 Walls	0.0	33.8	N/A	N/A
131	Room 199 Walls	0.0	39.7	N/A	N/A
132	Room 199 Walls	6.1	56.2	N/A	N/A
133	Room 199 Walls	0.0	18.3	N/A	N/A
134	Room 199 Walls	3.0	30.6	N/A	N/A
135	Room 199 Walls	3.0	25.6	N/A	N/A

Notes:

1. "As Left" final conditions are reported in these table and the map. All SS floors that were removed in-process are not reported or shown.
2. Locations 1-47 were surveyed during the RLC.
3. Locations 48-107 were surveyed during in-process stripout.
4. Total Surface Activity alpha survey result locations above 100 dpm/100cm² was isotopically sampled to determine isotopic mix.
5. Concrete samples were collected during in-process stripout.

ATTACHMENT B-3

881 EXTERIOR CONFIRMATORY SURVEY, RADIOLOGICAL DATA AND SURVEY MAPS

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA						Survey Tracking # N/A	
Mfg. Ludlum	Mfg. NE Electra	Mfg. NE Electra	Survey Type: Contamination				
Model 2929	Model DP-6	Model DP-6	Building: 881				
Serial # 147742	Serial # N/A	Serial # 1290	Location: External Walls and Roof of B881				
Cal Due 9/25/04	Cal Due N/A	Cal Due 12/1/04	Purpose: Pre-Demolition Verification Survey				
Bkg 0.4 cpm α	Bkg N/A cpm α	Bkg 2.0 cpm α	RWP #: N/A				
Efficiency 35.10 %	Efficiency N/A %	Efficiency 22.20 %	Date: 6/4/04 Time: 1030				
MDA 18 dpm α	MDA ##### dpm α	MDA 42 dpm α	RCT: C. Sutton				
Mfg. Ludlum	Mfg. NE Electra	Mfg. NE Electra	Print name Signature Emp. #				
Model 2929	Model DP-6	Model DP-6	RCT: NA / NA / NA				
Serial # 147742	Serial # N/A	Serial # 1290	Print name Signature Emp. #				
Cal Due 9/25/04	Cal Due N/A	Cal Due 12/1/04					
Bkg 107.7 cpm β	Bkg N/A cpm β	Bkg 842.0 cpm β					
Efficiency 39.10 %	Efficiency N/A %	Efficiency 30.70 %					
MDA 205 dpm β	MDA ##### dpm β	MDA 448 dpm β					

PRN/REN #: N/A

Comments: Nuclides of concern are Uranium and Plutonium. Survey performed to verify contamination levels prior to demolition of 881. Performed swipes of exterior walls and roof of B881.

SURVEY RESULTS

#	LOCATION	ALPHA			BETA		
		Swipe	Direct	Wipe	Swipe	Direct	Wipe
		dpm/100cm ²	dpm/100cm ²	dpm/wipe	dpm/100cm ²	dpm/100cm ²	dpm/wipe
1	881 Exterior Walls	<18	N/A	<42	N/A	N/A	N/A
2	881 Exterior Walls	<18	N/A	N/A	N/A	N/A	N/A
3	881 Exterior Walls	<18	N/A	N/A	N/A	N/A	N/A
4	881 Exterior Walls	<18	N/A	<42	N/A	N/A	N/A
5	881 Exterior Walls	<18	N/A	N/A	N/A	N/A	N/A
6	881 Exterior Walls	<18	N/A	N/A	N/A	N/A	N/A
7	881 Exterior Walls	<18	N/A	N/A	N/A	N/A	N/A
8	881 Roof	<18	N/A	N/A	N/A	N/A	N/A
9	881 Roof	<18	N/A	<42	N/A	N/A	N/A
10	881 Roof	<18	N/A	N/A	N/A	N/A	N/A
11	881 Roof	<18	N/A	N/A	N/A	N/A	N/A
12	881 Roof	<18	N/A	N/A	N/A	N/A	N/A
13	881 Roof	<18	N/A	N/A	N/A	N/A	N/A
14	881 Roof	<18	N/A	N/A	N/A	N/A	N/A
15	881 Roof	<18	N/A	N/A	N/A	N/A	N/A
16	881 Roof	<18	N/A	N/A	N/A	N/A	N/A
17	881 Roof	<18	N/A	<42	N/A	N/A	N/A
18	881 Roof	<18	N/A	N/A	N/A	N/A	N/A
19	881 Exterior Walls	<18	N/A	N/A	N/A	N/A	N/A
20	881 Exterior Walls	<18	N/A	N/A	N/A	N/A	N/A

Date Reviewed: 6/7/04

RS Supervision:

G.S. Treadwell / G.S. Treadwell

Print Name

Signature

Emp. #

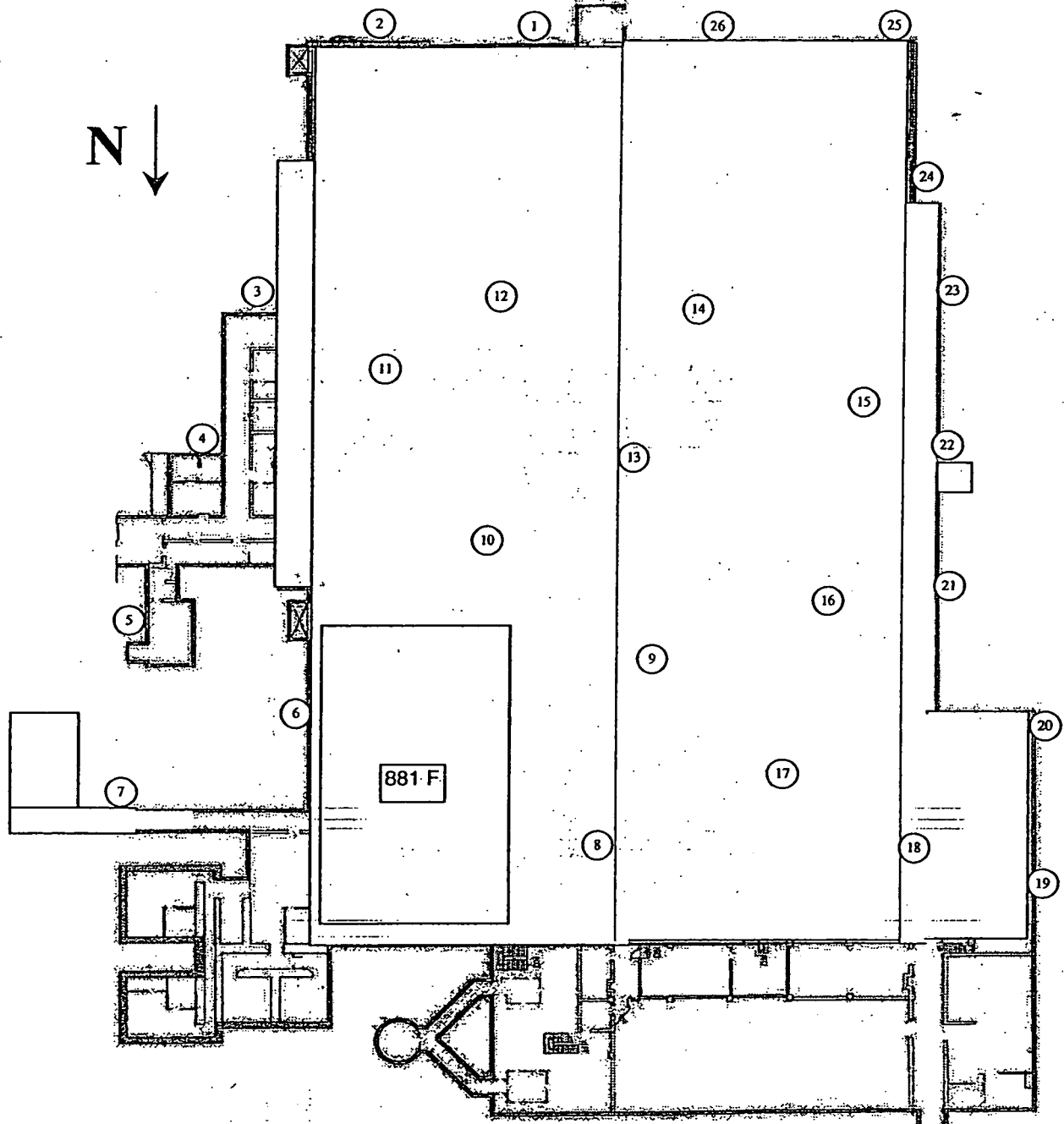
SURVEY RESULTS

3-PRO-164-RSP-07.01 (EFFECTIVE 7/12/01)

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE



ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA						Survey Tracking # N/A	
Mfg.	Ludlum	Mfg.	Eberline	Mfg.	NE Electra	Survey Type: Contamination	
Model	2929	Model	SAC-4	Model	DP-6	Building: 881	
Serial #	N/A	Serial #	830	Serial #	2340	Location: MU H and E Mezz	
Cal Due	N/A	Cal Due	10/30/04	Cal Due	10/2/04	Purpose: Pre-demolition verification	
Bkg	N/A cpm α	Bkg	0.2 cpm α	Bkg	4.0 cpm α	RWP #: N/A	
Efficiency	N/A %	Efficiency	33.00 %	Efficiency	22.60 %	Date: 6/10/04 Time: 0830	
MDA	20 dpm α	MDA	20 dpm α	MDA	52 dpm α	RCT: C. Sutton	
Mfg.	Ludlum	Mfg.	Eberline	Mfg.	NE Electra	Print name Signature Emp. #	
Model	2929	Model	BC-4	Model	DP-6	RCT: N/A / N/A / N/A	
Serial #	N/A	Serial #	N/A	Serial #	2340	Print name Signature Emp. #	
Cal Due	N/A	Cal Due	N/A	Cal Due	10/2/04	Print name Signature Emp. #	
Bkg	N/A cpm β	Bkg	N/A cpm β	Bkg	741.0 cpm β	Print name Signature Emp. #	
Efficiency	N/A %	Efficiency	25.00 %	Efficiency	32.90 %	Print name Signature Emp. #	
MDA	205 dpm β	MDA	200 dpm β	MDA	382 dpm β	Print name Signature Emp. #	

PRN/REN #: N/A

Comments: Nuclides of concern are Uranium and Plutonium. Survey performed to verify contamination levels prior to demolition of MU-H and Rm 154 MU E.

SURVEY RESULTS

#	LOCATION	ALPHA			BETA		
		Swipe	Direct	Wipe	Swipe	Direct	Wipe
		dpm/100cm ²	dpm/100cm ²	dpm/wipe	dpm/100cm ²	dpm/100cm ²	dpm/wipe
1	MU H Floor	<20	N/A	<52	N/A	N/A	N/A
2	MU H Floor	<20	N/A	N/A	N/A	N/A	N/A
3	MU H Floor	<20	N/A	<52	N/A	N/A	N/A
4	MU H Floor	<20	N/A	N/A	N/A	N/A	N/A
5	MU H Floor	<20	N/A	<52	N/A	N/A	N/A
6	MU H Floor	<20	N/A	N/A	N/A	N/A	N/A
7	MU H Floor	<20	N/A	<52	N/A	N/A	N/A
8	MU H Floor	<20	N/A	N/A	N/A	N/A	N/A
9	MU H Floor	<20	N/A	<52	N/A	N/A	N/A
10	MU H Floor	<20	N/A	N/A	N/A	N/A	N/A
11	MU H Floor	<20	N/A	<52	N/A	N/A	N/A
12	MU H Floor	<20	N/A	N/A	N/A	N/A	N/A
13	MU H Floor	<20	N/A	<52	N/A	N/A	N/A
14	MU H Floor	<20	N/A	N/A	N/A	N/A	N/A
15	MU H Floor	<20	N/A	<52	N/A	N/A	N/A
16	MU H Floor	<20	N/A	N/A	N/A	N/A	N/A
17	MU H Floor	<20	N/A	N/A	N/A	N/A	N/A
20	MU H Floor	<20	N/A	<52	N/A	N/A	N/A
19	Rm 154 MU E Floor	<20	N/A	N/A	N/A	N/A	N/A
20	Rm 154 MU E Floor	<20	N/A	N/A	N/A	N/A	N/A

Date Reviewed: 6/10/04

RS Supervision:

G.S. Treadwell

Print Name

Signature

Emp. #

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

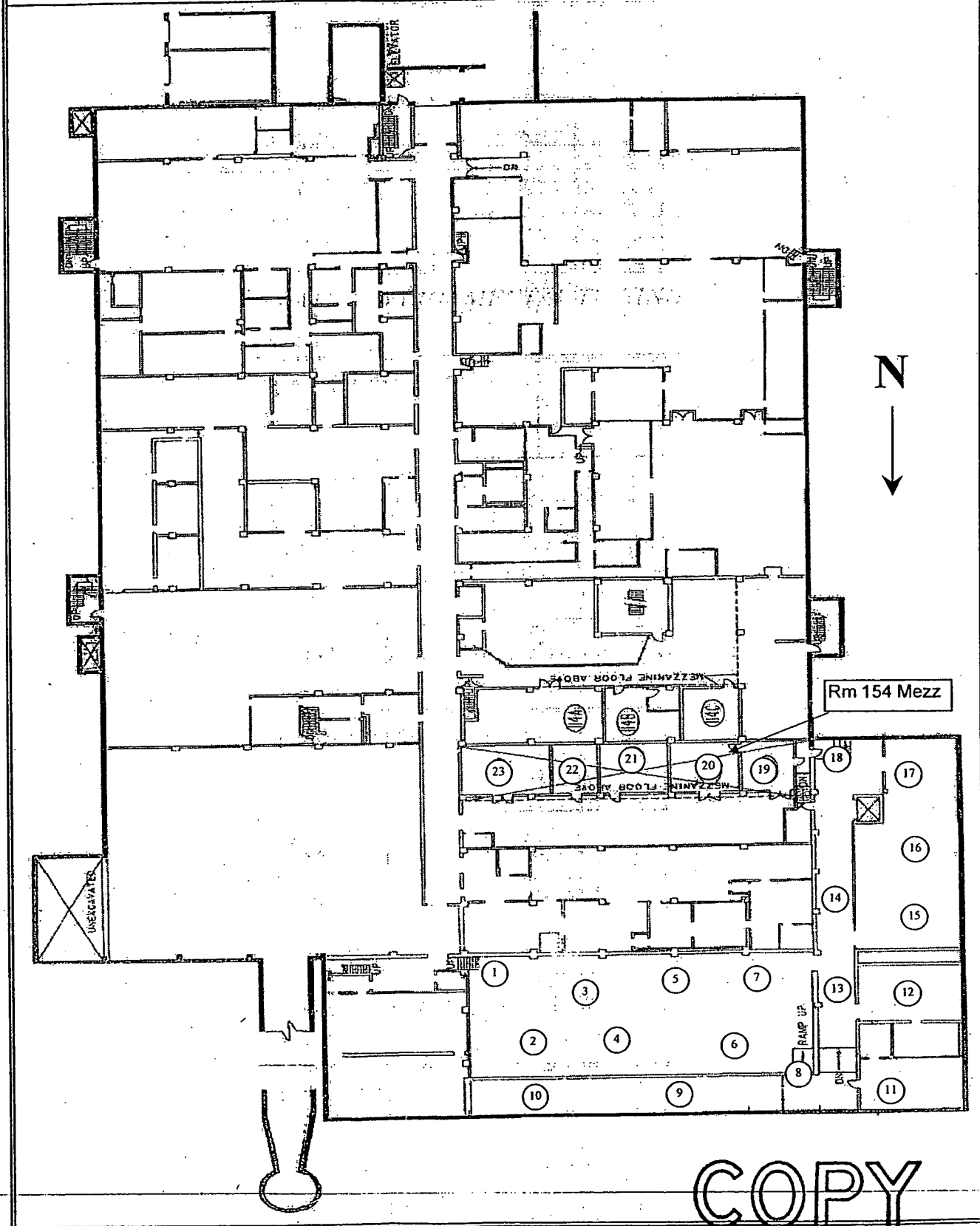
SURVEY RESULTS

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

Drawing Showing Survey Points



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ATTACHMENT B-4

881 RADIOLOGICAL SURVEY UNIT MAPS

ATTACHMENT B-5

RADIOLOGICAL SURVEY UNIT DATA SUMMARY AND SURVEY MAPS

Survey Area: A

Survey Unit: 881A01

Building: 881

Description: Building 881, Management Unit A, Room 137 Floor

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 73

Nbr Biased Measurements Required: 0

Nbr QC Required: 5

Nbr Random Measurements Performed: 85

Nbr Biased Measurements Performed: 0

Nbr QC Performed: 5

Alpha

Maximum: 105.6 dpm/100cm²Minimum: -15.1 dpm/100cm²Mean: 23.9 dpm/100cm²

Standard Deviation: 22.7

QC Maximum: 85.0 dpm/100cm²QC Minimum: 19.6 dpm/100cm²QC Mean: 48.6 dpm/100cm²Uranium DCGLw: 5,000.0 dpm/100cm²Uranium DCGL_{EMC}: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 73

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 85

Nbr Biased Measurements Performed: 0

Alpha

Maximum: 8.2 dpm/100cm²Minimum: -0.9 dpm/100cm²Mean: 0.8 dpm/100cm²

Standard Deviation: 2.2

Uranium DCGLw: 1,000.0

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: A	Survey Unit: 881A01	Building: 881
Description: Building 881, Management Unit A, Room 137, Floor		

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	903346	06/14/04	SAC-4	830	NA	10/30/04	0.330	NA	16.0	NA	R
2	903346	06/14/04	SAC-4	961	NA	09/30/04	0.330	NA	16.0	NA	R
3	700835	06/14/04	Electra	1417	DP-6	12/03/04	0.207	NA	93.0	NA	T/S
4	903346	06/14/04	Electra	662	DP-6	12/10/04	0.217	NA	93.0	NA	T/S
5	711447	06/14/04	Electra	667	DP-6	10/22/04	0.222	NA	93.0	NA	T/S
6	702575	06/15/04	Electra	1241	DP-8	10/06/04	0.193	NA	93.0	NA	S
7	702567	06/15/04	Electra	660	DP-8	10/08/04	0.156	NA	93.0	NA	S
8	700835	06/15/04	Electra	673	DP-8	06/30/04	0.180	NA	93.0	NA	S
9	712193	06/15/04	Electra	2394	DP-6	08/19/04	0.214	NA	93.0	NA	Q/S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: A

Survey Unit: 881A01

Building: 881

Description: Building 881 Management Unit A Room 137 Floor

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A01PRP-N001	1	2.7	N/A	
881A01PRP-N002	2	-0.9	N/A	
881A01PRP-N003	1	-0.3	N/A	
881A01PRP-N004	2	-0.9	N/A	
881A01PRP-N005	1	-0.3	N/A	
881A01PRP-N006	2	8.2	N/A	
881A01PRP-N007	1	2.7	N/A	
881A01PRP-N008	2	5.2	N/A	
881A01PRP-N009	1	-0.3	N/A	
881A01PRP-N010	2	-0.9	N/A	
881A01PRP-N011	1	-0.3	N/A	
881A01PRP-N012	2	-0.9	N/A	
881A01PRP-N013	1	-0.3	N/A	
881A01PRP-N014	2	2.1	N/A	
881A01PRP-N015	1	-0.3	N/A	
881A01PRP-N016	2	-0.9	N/A	
881A01PRP-N017	1	-0.3	N/A	
881A01PRP-N018	2	-0.9	N/A	
881A01PRP-N019	1	-0.3	N/A	
881A01PRP-N020	2	2.1	N/A	
881A01PRP-N021	1	-0.3	N/A	
881A01PRP-N022	2	8.2	N/A	
881A01PRP-N023	1	-0.3	N/A	
881A01PRP-N024	2	-0.9	N/A	
881A01PRP-N025	1	-0.3	N/A	
881A01PRP-N026	2	-0.9	N/A	
881A01PRP-N027	1	-0.3	N/A	
881A01PRP-N028	2	5.2	N/A	
881A01PRP-N029	1	-0.3	N/A	

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Survey Area: A

Survey Unit: 881A01

Building: 881

Description: Building 881 Management Unit A Room 137 Floor

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A01PRP-N030	2	-0.9	N/A	
881A01PRP-N031	1	-0.3	N/A	
881A01PRP-N032	2	-0.9	N/A	
881A01PRP-N033	1	-0.3	N/A	
881A01PRP-N034	2	-0.9	N/A	
881A01PRP-N035	1	-0.3	N/A	
881A01PRP-N036	2	-0.9	N/A	
881A01PRP-N037	1	-0.3	N/A	
881A01PRP-N038	2	-0.9	N/A	
881A01PRP-N039	1	-0.3	N/A	
881A01PRP-N040	2	-0.9	N/A	
881A01PRP-N041	1	-0.3	N/A	
881A01PRP-N042	2	-0.9	N/A	
881A01PRP-N043	1	2.7	N/A	
881A01PRP-N044	2	-0.9	N/A	
881A01PRP-N045	1	2.7	N/A	
881A01PRP-N046	2	2.1	N/A	
881A01PRP-N047	1	2.7	N/A	
881A01PRP-N048	2	-0.9	N/A	
881A01PRP-N049	1	-0.3	N/A	
881A01PRP-N050	2	5.2	N/A	
881A01PRP-N051	1	-0.3	N/A	
881A01PRP-N052	2	2.1	N/A	
881A01PRP-N053	1	2.7	N/A	
881A01PRP-N054	2	5.2	N/A	
881A01PRP-N055	1	-0.3	N/A	
881A01PRP-N056	2	2.1	N/A	
881A01PRP-N057	1	-0.3	N/A	
881A01PRP-N058	2	2.1	N/A	

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Survey Area: A

Survey Unit: 881A01

Building: 881

Description: Building 881, Management Unit A, Room 137 Floor

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A01PRP-N059	1	-0.3	N/A	
881A01PRP-N060	2	-0.9	N/A	
881A01PRP-N061	1	-0.3	N/A	
881A01PRP-N062	2	2.1	N/A	
881A01PRP-N063	1	-0.3	N/A	
881A01PRP-N064	2	-0.9	N/A	
881A01PRP-N065	1	2.7	N/A	
881A01PRP-N066	2	-0.9	N/A	
881A01PRP-N067	1	5.8	N/A	
881A01PRP-N068	2	-0.9	N/A	
881A01PRP-N069	1	-0.3	N/A	
881A01PRP-N070	2	-0.9	N/A	
881A01PRP-N071	1	-0.3	N/A	
881A01PRP-N072	2	-0.9	N/A	
881A01PRP-N073	1	-0.3	N/A	
881A01PRP-N074	2	2.1	N/A	
881A01PRP-N075	1	5.8	N/A	
881A01PRP-N076	2	2.1	N/A	
881A01PRP-N077	1	-0.3	N/A	
881A01PRP-N078	2	5.2	N/A	
881A01PRP-N079	1	-0.3	N/A	
881A01PRP-N080	2	-0.9	N/A	
881A01PRP-N081	1	2.7	N/A	
881A01PRP-N082	2	-0.9	N/A	
881A01PRP-N083	1	-0.3	N/A	
881A01PRP-N084	2	-0.9	N/A	
881A01PRP-N085	1	2.7	N/A	

Comments:

116

Survey Area: A

Survey Unit: 881A01

Building: 881

Description: Building 881, Management Unit A, Room 137 Floor

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A01PRP-N001	3	23.5	N/A	
881A01PRP-N002	4	7.5	N/A	
881A01PRP-N003	5	15.7	N/A	
881A01PRP-N004	3	47.7	N/A	
881A01PRP-N005	4	21.3	N/A	
881A01PRP-N006	5	6.7	N/A	
881A01PRP-N007	3	23.5	N/A	
881A01PRP-N008	4	25.9	N/A	
881A01PRP-N009	5	38.3	N/A	
881A01QRP-N009	9	29.0	N/A	
881A01PRP-N010	3	-5.5	N/A	
881A01PRP-N011	4	12.1	N/A	
881A01PRP-N012	5	51.8	N/A	
881A01PRP-N013	3	18.7	N/A	
881A01PRP-N014	4	30.5	N/A	
881A01PRP-N015	5	-2.3	N/A	
881A01PRP-N016	3	28.3	N/A	
881A01PRP-N017	4	67.4	N/A	
881A01PRP-N018	5	20.2	N/A	
881A01PRP-N019	3	105.6	N/A	
881A01PRP-N020	4	53.5	N/A	
881A01PRP-N021	5	33.8	N/A	
881A01PRP-N022	3	4.2	N/A	
881A01PRP-N023	4	12.1	N/A	
881A01PRP-N024	5	24.7	N/A	
881A01PRP-N025	3	91.1	N/A	
881A01QRP-N025	9	85.0	N/A	

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Survey Area: A

Survey Unit: 881A01

Building: 881

Description: Building 881, Management Unit A, Room 137 Floor

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A01PRP-N026	4	-1.8	N/A	
881A01PRP-N027	5	56.3	N/A	
881A01PRP-N028	3	4.2	N/A	
881A01PRP-N029	4	-1.8	N/A	
881A01PRP-N030	5	15.7	N/A	
881A01PRP-N031	3	33.2	N/A	
881A01PRP-N032	4	95.0	N/A	
881A01PRP-N033	5	47.3	N/A	
881A01PRP-N034	3	52.5	N/A	
881A01PRP-N035	4	25.9	N/A	
881A01PRP-N036	5	6.7	N/A	
881A01PRP-N037	3	9.0	N/A	
881A01PRP-N038	4	39.7	N/A	
881A01PRP-N039	5	-2.3	N/A	
881A01PRP-N040	3	9.0	N/A	
881A01PRP-N041	4	12.1	N/A	
881A01PRP-N042	5	-2.3	N/A	
881A01PRP-N043	3	28.3	N/A	
881A01PRP-N044	4	21.3	N/A	
881A01PRP-N045	5	42.8	N/A	
881A01QRP-N045	9	19.6	N/A	
881A01PRP-N046	3	28.3	N/A	
881A01PRP-N047	4	30.5	N/A	
881A01PRP-N048	5	6.7	N/A	
881A01PRP-N049	3	28.3	N/A	
881A01PRP-N050	4	12.1	N/A	
881A01PRP-N051	5	15.7	N/A	

118

Survey Area: A

Survey Unit: 881A01

Building: 881

Description: Building 881, Management Unit A, Room 137, Floor

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A01PRP-N052	3	33.2	N/A	
881A01PRP-N053	4	35.1	N/A	
881A01PRP-N054	5	51.8	N/A	
881A01PRP-N055	3	42.8	N/A	
881A01PRP-N056	4	7.5	N/A	
881A01PRP-N057	5	11.2	N/A	
881A01PRP-N058	3	33.2	N/A	
881A01PRP-N059	4	35.1	N/A	
881A01QRP-N059	9	47.7	N/A	
881A01PRP-N060	5	6.7	N/A	
881A01PRP-N061	3	23.5	N/A	
881A01PRP-N062	4	39.7	N/A	
881A01PRP-N063	5	29.3	N/A	
881A01PRP-N064	3	23.5	N/A	
881A01PRP-N065	4	25.9	N/A	
881A01PRP-N066	5	-2.3	N/A	
881A01PRP-N067	3	13.8	N/A	
881A01PRP-N068	4	21.3	N/A	
881A01PRP-N069	5	2.2	N/A	
881A01PRP-N070	3	9.0	N/A	
881A01PRP-N071	4	16.7	N/A	
881A01PRP-N072	5	20.2	N/A	
881A01PRP-N073	3	28.3	N/A	
881A01PRP-N074	4	25.9	N/A	
881A01PRP-N075	5	78.8	N/A	
881A01QRP-N075	9	61.7	N/A	
881A01PRP-N076	3	-15.1	N/A	

Survey Area: A

Survey Unit: 881A01

Building: 881

Description: Building 881, Management Unit A, Room 137, Floor

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A01PRP-N077	4	2.8	N/A	
881A01PRP-N078	5	20.2	N/A	
881A01PRP-N079	3	-0.6	N/A	
881A01PRP-N080	4	16.7	N/A	
881A01PRP-N081	5	24.7	N/A	
881A01PRP-N082	3	9.0	N/A	
881A01PRP-N083	4	-6.4	N/A	
881A01PRP-N084	5	-6.8	N/A	
881A01PRP-N085	3	9.0	N/A	

Comments:

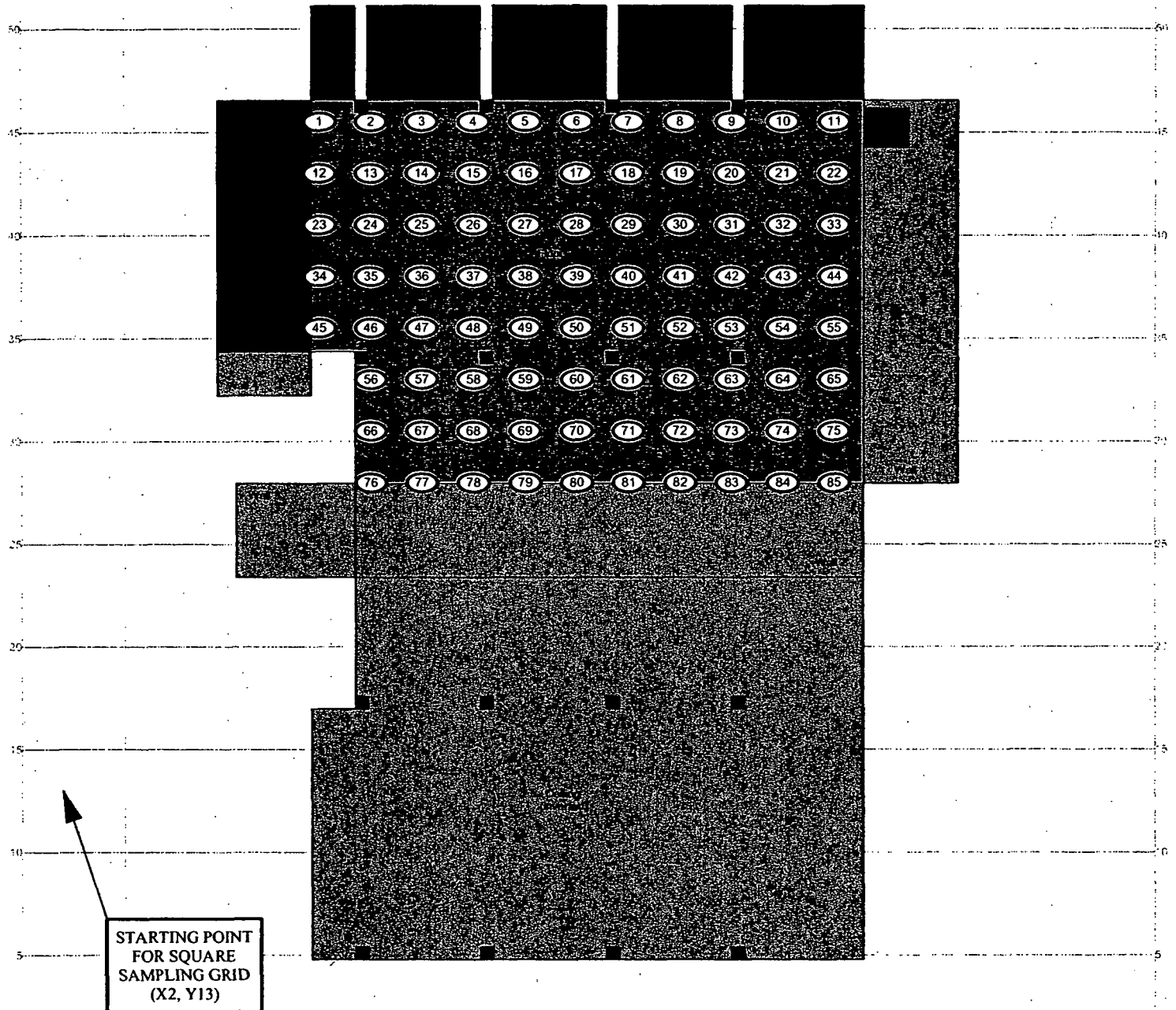
120

PRE-DEMOLITION SURVEY FOR B881

Survey Area: A Survey Unit: 881A01 Classification: 1
 Building: 881
 Survey Unit Description: Building 881, Management Unit A, Rooms 137, Floor
 Total Area: 485 sq. m. Total Floor Area: 485 sq. m.
 Grid Spacing for Survey Points: 2.5 m. X 2.5 m.

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Room 137



STARTING POINT
FOR SQUARE
SAMPLING GRID
(X2, Y13)

<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Smear & TSA Location Smear, TSA & Sample Location Open/Inaccessible Area Area in Another Survey Unit 	<p>Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p>	<p>N</p> <p>↑</p>	<p>0 FEET 30</p> <p>0 METERS 10</p> <p>1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p>U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GIS Dept. 303-966-7707 Prepared for:</p> <p>CH2MHILL Communications Group</p> <p>KAISER HILL</p> <p>MAP ID: 03-0568/881A01-SC June 4, 2004</p>
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Survey Area: A**Survey Unit:** 881A02**Building:** 881**Description:** Building 881, Management Unit A, Room 137 Walls and Ceiling

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr QC Required: 2

Nbr Random Measurements Performed: 16

Nbr Biased Measurements Performed: 0

Nbr QC Performed: 2

Alpha

Maximum: 75.4 dpm/100cm²Minimum: -5.7 dpm/100cm²Mean: 26.1 dpm/100cm²

Standard Deviation: 21.2

QC Maximum: 100.5 dpm/100cm²QC Minimum: 39.8 dpm/100cm²QC Mean: 70.1 dpm/100cm²Uranium DCGL_w: 5,000.0 dpm/100cm²Uranium DCGL_{EMC}: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 16

Nbr Biased Measurements Performed: 0

Alpha

Maximum: 5.2 dpm/100cm²Minimum: -0.9 dpm/100cm²Mean: 1.0 dpm/100cm²

Standard Deviation: 2.2

Uranium DCGL_w: 1,000.0

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

122

Survey Area: A

Survey Unit: 881A02

Building: 881

Description: Building 881, Management Unit A, Room 137 Walls and Ceiling

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	712193	06/14/04	Electra	667	DP-6	10/22/04	0.222	NA	93.0	NA	T/S
2	712193	06/14/04	SAC-4	961	NA	09/30/04	0.330	NA	16.0	NA	R
3	702567	06/14/04	Electra	673	DP-8	06/30/04	0.180	NA	93.0	NA	S
4	711447	06/14/04	Electra	660	DP-8	10/08/04	0.156	NA	93.0	NA	S
5	711447	06/14/04	Electra	2394	DP-6	08/19/04	0.214	NA	93.0	NA	Q

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: A

Survey Unit: 881A02

Building: 881

Description: Building 881; Management Unit A; Room 137 Walls and Ceiling

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A02PRP-N001	2	-0.9	N/A	
881A02PRP-N002	2	2.1	N/A	
881A02PRP-N003	2	2.1	N/A	
881A02PRP-N004	2	-0.9	N/A	
881A02PRP-N005	2	2.1	N/A	
881A02PRP-N006	2	-0.9	N/A	
881A02PRP-N007	2	-0.9	N/A	
881A02PRP-N008	2	5.2	N/A	
881A02PRP-N009	2	2.1	N/A	
881A02PRP-N010	2	-0.9	N/A	
881A02PRP-N011	2	5.2	N/A	
881A02PRP-N012	2	-0.9	N/A	
881A02PRP-N013	2	-0.9	N/A	
881A02PRP-N014	2	2.1	N/A	
881A02PRP-N015	2	2.1	N/A	
881A02PRP-N016	2	-0.9	N/A	

Comments:

124

Survey Area: A

Survey Unit: 881A02

Building: 881

Description: Building 881, Management Unit A, Room 137 Walls and Ceiling

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A02PRP-N001	1	43.9	N/A	
881A02PRP-N002	1	16.8	N/A	
881A02PRP-N003	1	21.4	N/A	
881A02PRP-N004	1	75.4	N/A	
881A02QRP-N004	5	100.5	N/A	
881A02PRP-N005	1	12.3	N/A	
881A02PRP-N006	1	-1.2	N/A	
881A02PRP-N007	1	16.8	N/A	
881A02PRP-N008	1	-5.7	N/A	
881A02PRP-N009	1	25.9	N/A	
881A02PRP-N010	1	21.4	N/A	
881A02PRP-N011	1	39.4	N/A	
881A02PRP-N012	1	25.9	N/A	
881A02PRP-N013	1	39.4	N/A	
881A02PRP-N014	1	57.4	N/A	
881A02QRP-N014	5	39.8	N/A	
881A02PRP-N015	1	25.9	N/A	
881A02PRP-N016	1	3.3	N/A	

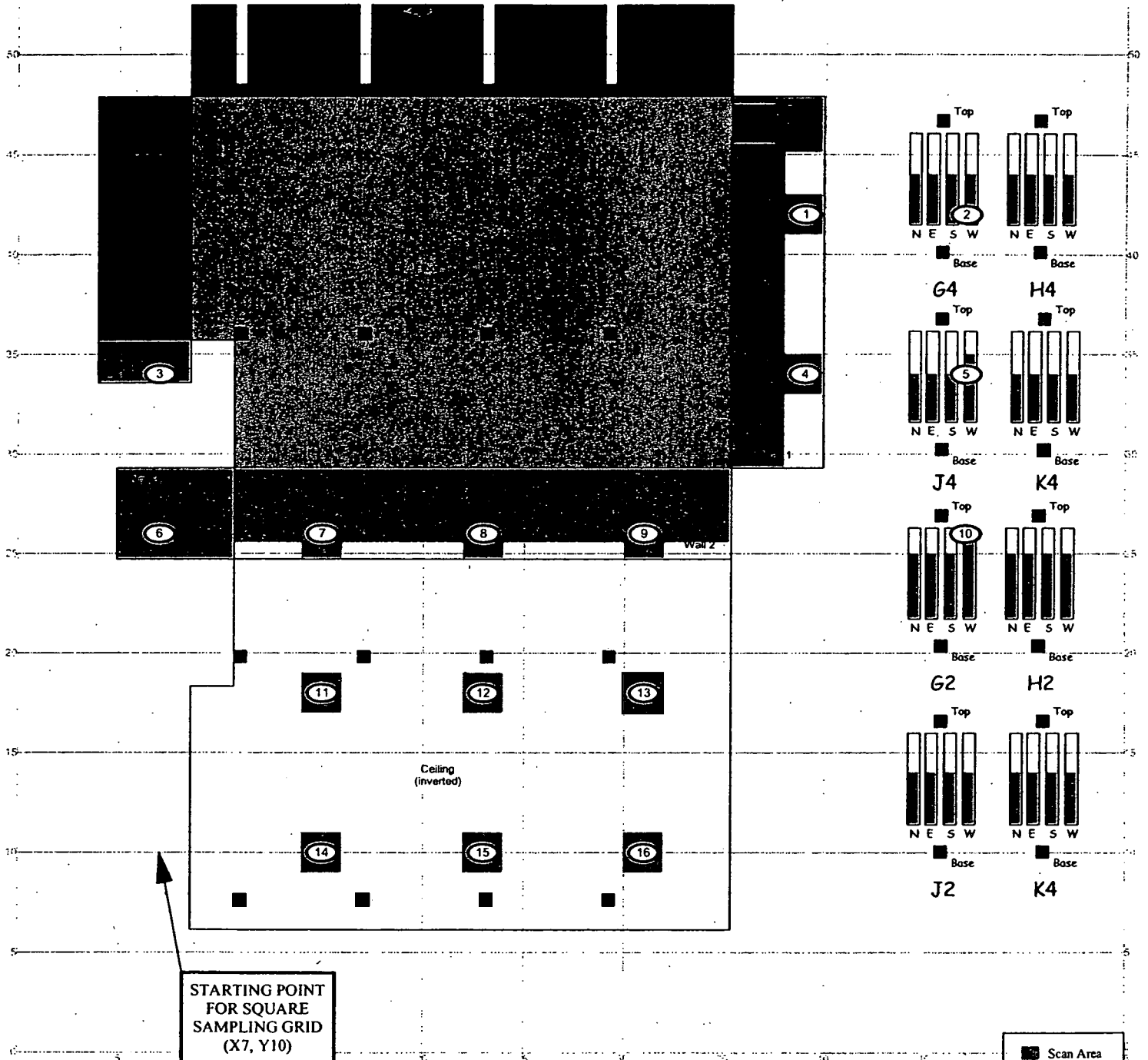
Comments:



PRE-DEMOLITION SURVEY FOR B881

Survey Area: A Survey Unit: 881A02 Classification: 2
 Building: 881
 Survey Unit Description: Building 881, Management Unit A, Room 137, Walls & Ceiling
 Total Area: 915 sq. m. Total Floor Area: 485 sq. m.
 Grid Spacing for Survey Points: 8 m. X 8 m.

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Room 137



SURVEY MAP LEGEND (●) Smear & TSA Location (◆) Smear, TSA & Sample Location (■) Open/Inaccessible Area (■) Area in Another Survey Unit	Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.	N ↑	0 FEET 30 0 METERS 10 1 inch = 24 feet 1 grid sq. = 1 sq. m.	U.S. Department of Energy Rocky Flats Environmental Technology Site Prepared by: GIS Dept. 303-966-7707 Prepared for:  CH2MHILL Communications Group  KAISER HILL MAP ID: 03-0568/881A02-SC June 4, 2004
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Survey Area: A

Survey Unit: 881A03

Building: 881

Description: Building 881; Management Unit A; Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Floors

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 99

Nbr Biased Measurements Required: 0

Nbr QC Required: 6

Nbr Random Measurements Performed: 107

Nbr Biased Measurements Performed: 3

Nbr QC Performed: 6

Alpha

Maximum: 456.7 dpm/100cm²

Minimum: -18.2 dpm/100cm²

Mean: 38.4 dpm/100cm²

Standard Deviation: 65.4

QC Maximum: 625.4 dpm/100cm²

QC Minimum: -5.4 dpm/100cm²

QC Mean: 153.5 dpm/100cm²

Uranium DCGL_w: 5,000.0 dpm/100cm²

Uranium DCGL_{EMC}: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 99

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 107

Nbr Biased Measurements Performed: 3

Alpha

Maximum: 11.8 dpm/100cm²

Minimum: -0.9 dpm/100cm²

Mean: 0.7 dpm/100cm²

Standard Deviation: 2.1

Uranium DCGL_w: 1,000.0

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

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Survey Area: A

Survey Unit: 881A03

Building: 881

Description: Building 881 Management Unit A Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Floors

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	711447	06/13/04	Electra	660	DP-8	10/08/04	0.156	NA	93.0	NA	S
2	702575	06/13/04	Electra	673	DP-8	06/30/04	0.180	NA	93.0	NA	S
3	702567	06/13/04	Electra	680	DP-8	12/08/04	0.167	NA	93.0	NA	S
4	903346	06/14/04	Electra	662	DP-6	12/10/04	0.217	NA	93.0	NA	T
5	702575	06/14/04	Electra	663	DP-6	09/18/04	0.218	NA	93.0	NA	T
6	702567	06/14/04	Electra	1417	DP-6	12/03/04	0.207	NA	93.0	NA	T
7	711447	06/14/04	Electra	667	DP-6	10/22/04	0.222	NA	93.0	NA	T
8	903346	06/14/04	SAC-4	830	NA	10/30/04	0.330	NA	16.0	NA	R
9	903346	06/14/04	SAC-4	961	NA	09/30/04	0.330	NA	16.0	NA	R
10	712193	06/14/04	Electra	2394	DP-6	08/19/04	0.214	NA	93.0	NA	T/Q/S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

128

Survey Area: A

Survey Unit: 881A03

Building: 881

Description: Building 881, Management Unit A, Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Floors

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A03PRP-N001	8	2.7	N/A	
881A03PRP-N002	9	-0.9	N/A	
881A03PRP-N003	8	2.7	N/A	
881A03PRP-N004	9	-0.9	N/A	
881A03PRP-N005	8	-0.3	N/A	
881A03PRP-N006	9	-0.9	N/A	
881A03PRP-N007	8	-0.3	N/A	
881A03PRP-N008	9	2.1	N/A	
881A03PRP-N009	8	-0.3	N/A	
881A03PRP-N010	9	-0.9	N/A	
881A03PRP-N011	8	-0.3	N/A	
881A03PRP-N012	9	-0.9	N/A	
881A03PRP-N013	8	-0.3	N/A	
881A03PRP-N014	9	-0.9	N/A	
881A03PRP-N015	8	2.7	N/A	
881A03PRP-N016	9	-0.9	N/A	
881A03PRP-N017	8	-0.3	N/A	
881A03PRP-N018	9	-0.9	N/A	
881A03PRP-N019	8	-0.3	N/A	
881A03PRP-N020	9	2.1	N/A	
881A03PRP-N021	8	-0.3	N/A	
881A03PRP-N022	9	-0.9	N/A	
881A03PRP-N023	8	2.7	N/A	
881A03PRP-N024	9	2.1	N/A	
881A03PRP-N025	8	2.7	N/A	
881A03PRP-N026	9	-0.9	N/A	
881A03PRP-N027	8	-0.3	N/A	
881A03PRP-N028	9	-0.9	N/A	
881A03PRP-N029	8	-0.3	N/A	

129

Survey Area: A

Survey Unit: 881A03

Building: 881

Description: Building 881, Management Unit A, Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Floors

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A03PRP-N030	9	-0.9	N/A	
881A03PRP-N031	8	2.7	N/A	
881A03PRP-N032	9	2.1	N/A	
881A03PRP-N033	8	2.7	N/A	
881A03PRP-N034	9	5.2	N/A	
881A03PRP-N035	8	11.8	N/A	
881A03PRP-N036	9	5.2	N/A	
881A03PRP-N037	8	2.7	N/A	
881A03PRP-N038	9	2.1	N/A	
881A03PRP-N039	8	5.8	N/A	
881A03PRP-N040	9	2.1	N/A	
881A03PRP-N041	8	-0.3	N/A	
881A03PRP-N042	9	-0.9	N/A	
881A03PRP-N043	8	2.7	N/A	
881A03PRP-N044	9	-0.9	N/A	
881A03PRP-N045	8	2.7	N/A	
881A03PRP-N046	9	2.1	N/A	
881A03PRP-N047	8	2.7	N/A	
881A03PRP-N048	9	2.1	N/A	
881A03PRP-N049	8	-0.3	N/A	
881A03PRP-N050	9	-0.9	N/A	
881A03PRP-N051	8	-0.3	N/A	
881A03PRP-N052	9	-0.9	N/A	
881A03PRP-N053	8	-0.3	N/A	
881A03PRP-N054	9	-0.9	N/A	
881A03PRP-N055	8	-0.3	N/A	
881A03PRP-N056	9	-0.9	N/A	
881A03PRP-N057	8	-0.3	N/A	
881A03PRP-N058	9	-0.9	N/A	

130

Survey Area: A

Survey Unit: 881A03

Building: 881

Description: Building 881, Management Unit A, Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Floors

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A03PRP-N059	8	2.7	N/A	
881A03PRP-N060	9	-0.9	N/A	
881A03PRP-N061	8	2.7	N/A	
881A03PRP-N062	9	5.2	N/A	
881A03PRP-N063	8	-0.3	N/A	
881A03PRP-N064	9	-0.9	N/A	
881A03PRP-N065	8	-0.3	N/A	
881A03PRP-N066	9	-0.9	N/A	
881A03PRP-N067	8	2.7	N/A	
881A03PRP-N068	9	-0.9	N/A	
881A03PRP-N069	8	2.7	N/A	
881A03PRP-N070	9	2.1	N/A	
881A03PRP-N071	8	-0.3	N/A	
881A03PRP-N072	9	-0.9	N/A	
881A03PRP-N073	8	2.7	N/A	
881A03PRP-N074	9	-0.9	N/A	
881A03PRP-N075	8	-0.3	N/A	
881A03PRP-N076	9	-0.9	N/A	
881A03PRP-N077	8	-0.3	N/A	
881A03PRP-N078	9	-0.9	N/A	
881A03PRP-N079	8	2.7	N/A	
881A03PRP-N080	9	2.1	N/A	
881A03PRP-N081	8	2.7	N/A	
881A03PRP-N082	9	-0.9	N/A	
881A03PRP-N083	8	-0.3	N/A	
881A03PRP-N084	9	-0.9	N/A	
881A03PRP-N085	8	-0.3	N/A	
881A03PRP-N086	9	-0.9	N/A	
881A03PRP-N087	8	-0.3	N/A	

Survey Area: A

Survey Unit: 881A03

Building: 881

Description: Building 881 Management Unit A Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Floors

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A03PRP-N088	9	2.1	N/A	
881A03PRP-N089	8	-0.3	N/A	
881A03PRP-N090	9	-0.9	N/A	
881A03PRP-N091	8	-0.3	N/A	
881A03PRP-N092	9	-0.9	N/A	
881A03PRP-N093	8	-0.3	N/A	
881A03PRP-N094	9	2.1	N/A	
881A03PRP-N095	8	-0.3	N/A	
881A03PRP-N096	9	-0.9	N/A	
881A03PRP-N097	8	-0.3	N/A	
881A03PRP-N098	9	-0.9	N/A	
881A03PRP-N099	8	-0.3	N/A	
881A03PRP-N100	9	2.1	N/A	
881A03PRP-N101	8	-0.3	N/A	
881A03PRP-N102	9	2.1	N/A	
881A03PRP-N103	8	-0.3	N/A	
881A03PRP-N104	9	-0.9	N/A	
881A03PRP-N105	8	2.7	N/A	
881A03PRP-N106	9	-0.9	N/A	
881A03PRP-N107	8	-0.3	N/A	

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A03PBP-N108	9	2.1	N/A	
881A03PBP-N109	9	-0.9	N/A	
881A03PBP-N110	9	5.2	N/A	

Comments:

132

Survey Area: A

Survey Unit: 881A03

Building: 881

Description: Building 881, Management Unit A, Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Floors

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A03PRP-N001	4	28.1	N/A	
881A03PRP-N002	4	0.4	N/A	
881A03PRP-N003	4	28.1	N/A	
881A03PRP-N004	4	14.3	N/A	
881A03PRP-N005	4	41.9	N/A	
881A03PRP-N006	4	28.1	N/A	
881A03PRP-N007	4	14.3	N/A	
881A03PRP-N008	4	37.3	N/A	
881A03PRP-N009	4	18.9	N/A	
881A03PRP-N010	4	41.9	N/A	
881A03PRP-N011	4	83.4	N/A	
881A03PRP-N012	4	41.9	N/A	
881A03PRP-N013	4	23.5	N/A	
881A03PRP-N014	4	9.7	N/A	
881A03PRP-N015	4	32.7	N/A	
881A03PRP-N016	4	171.0	N/A	
881A03QRP-N016	10	111.4	N/A	
881A03PRP-N017	4	14.3	N/A	
881A03PRP-N018	4	18.9	N/A	
881A03PRP-N019	5	32.4	N/A	
881A03PRP-N020	5	9.5	N/A	
881A03PRP-N021	5	0.3	N/A	
881A03PRP-N022	5	27.8	N/A	
881A03PRP-N023	5	14.1	N/A	
881A03PRP-N024	5	32.4	N/A	
881A03PRP-N025	5	4.9	N/A	
881A03PRP-N026	5	18.7	N/A	

Survey Area: A

Survey Unit: 881A03

Building: 881

Description: Building 881, Management Unit A, Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Floors

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A03PRP-N027	5	32.4	N/A	
881A03PRP-N028	5	18.7	N/A	
881A03PRP-N029	5	23.3	N/A	
881A03PRP-N030	5	27.8	N/A	
881A03PRP-N031	5	4.9	N/A	
881A03PRP-N032	5	46.2	N/A	
881A03PRP-N033	5	137.9	N/A	
881A03PRP-N034	5	46.2	N/A	
881A03PRP-N035	5	9.5	N/A	
881A03PRP-N036	5	165.5	N/A	
881A03QRP-N036	10	106.7	N/A	
881A03PRP-N037	5	18.7	N/A	
881A03PRP-N038	5	14.1	N/A	
881A03PRP-N039	5	27.8	N/A	
881A03PRP-N040	5	9.5	N/A	
881A03PRP-N041	5	0.3	N/A	
881A03PRP-N042	6	25.9	N/A	
881A03PRP-N043	6	1.8	N/A	
881A03PRP-N044	6	50.1	N/A	
881A03PRP-N045	6	88.7	N/A	
881A03QRP-N045	10	13.3	N/A	
881A03PRP-N046	6	25.9	N/A	
881A03PRP-N047	6	6.6	N/A	
881A03PRP-N048	6	45.3	N/A	
881A03PRP-N049	6	1.8	N/A	
881A03PRP-N050	6	11.4	N/A	
881A03PRP-N051	6	11.4	N/A	

Survey Area: A

Survey Unit: 881A03

Building: 881

Description: Building 881, Management Unit A, Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Floors

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A03PRP-N052	6	45.3	N/A	
881A03PRP-N053	6	69.4	N/A	
881A03PRP-N054	6	40.4	N/A	
881A03PRP-N055	6	16.3	N/A	
881A03PRP-N056	6	30.8	N/A	
881A03PRP-N057	6	25.9	N/A	
881A03PRP-N058	6	25.9	N/A	
881A03PRP-N059	6	45.3	N/A	
881A03PRP-N060	6	1.8	N/A	
881A03PRP-N061	6	21.1	N/A	
881A03PRP-N062	6	50.1	N/A	
881A03PRP-N063	6	35.6	N/A	
881A03PRP-N064	4	23.5	N/A	
881A03PRP-N065	4	28.1	N/A	
881A03PRP-N066	4	456.7	N/A	
881A03PRP-N067	4	18.9	N/A	
881A03PRP-N068	4	346.1	N/A	
881A03PRP-N069	4	32.7	N/A	
881A03PRP-N070	4	14.3	N/A	
881A03PRP-N071	4	5.1	N/A	
881A03PRP-N072	4	14.3	N/A	
881A03PRP-N073	4	14.3	N/A	
881A03PRP-N074	4	46.5	N/A	
881A03PRP-N075	4	14.3	N/A	
881A03PRP-N076	4	9.7	N/A	
881A03PRP-N077	4	18.9	N/A	
881A03PRP-N078	4	18.9	N/A	

Survey Area: A

Survey Unit: 881A03

Building: 881

Description: Building 881, Management Unit A, Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Floors

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A03PRP-N079	4	28.1	N/A	
881A03PRP-N080	4	18.9	N/A	
881A03PRP-N081	4	14.3	N/A	
881A03PRP-N082	4	41.9	N/A	
881A03QRP-N082	10	-5.4	N/A	
881A03PRP-N083	4	-4.2	N/A	
881A03PRP-N084	4	5.1	N/A	
881A03PRP-N085	4	341.5	N/A	
881A03QRP-N085	10	625.4	N/A	
881A03PRP-N086	7	17.8	N/A	
881A03PRP-N087	7	40.4	N/A	
881A03PRP-N088	7	8.8	N/A	
881A03PRP-N089	7	22.3	N/A	
881A03PRP-N090	7	40.4	N/A	
881A03PRP-N091	7	26.9	N/A	
881A03PRP-N092	7	17.8	N/A	
881A03PRP-N093	7	49.4	N/A	
881A03PRP-N094	7	13.3	N/A	
881A03PRP-N095	7	62.9	N/A	
881A03QRP-N095	10	69.3	N/A	
881A03PRP-N096	7	-0.2	N/A	
881A03PRP-N097	7	4.3	N/A	
881A03PRP-N098	7	-18.2	N/A	
881A03PRP-N099	7	13.3	N/A	
881A03PRP-N100	7	35.9	N/A	
881A03PRP-N101	7	13.3	N/A	
881A03PRP-N102	7	4.3	N/A	

Survey Area: A

Survey Unit: 881A03

Building: 881

Description: Building 881, Management Unit A, Rooms: 112, 113, 125, 127, 130, 138, 139 & 151 Floors

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A03PRP-N103	7	26.9	N/A	
881A03PRP-N104	7	13.3	N/A	
881A03PRP-N105	7	4.3	N/A	
881A03PRP-N106	7	13.3	N/A	
881A03PRP-N107	7	17.8	N/A	

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A03PBP-N108	10	115.3	N/A	
881A03PBP-N109	10	59.2	N/A	
881A03PBP-N110	10	63.9	N/A	

Comments:

Survey Area: A

Survey Unit: 881A04

Building: 881

Description: Building 881, Management Unit A, Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Walls and Ceiling

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr QC Required: 2

Nbr Random Measurements Performed: 16

Nbr Biased Measurements Performed: 0

Nbr QC Performed: 2

Alpha

Maximum: 59.6 dpm/100cm²

Minimum: -14.3 dpm/100cm²

Mean: 26.9 dpm/100cm²

Standard Deviation: 22.0

QC Maximum: 20.3 dpm/100cm²

QC Minimum: 15.7 dpm/100cm²

QC Mean: 18.0 dpm/100cm²

Uranium DCGLw: 5,000.0 dpm/100cm²

Uranium DCGL_{EMC}: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 16

Nbr Biased Measurements Performed: 0

Alpha

Maximum: 5.8 dpm/100cm²

Minimum: -0.3 dpm/100cm²

Mean: 0.5 dpm/100cm²

Standard Deviation: 1.7

Uranium DCGLw: 1,000.0

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: A	Survey Unit: 881A04	Building: 881
Description: Building 881, Management Unit A, Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Walls and Ceiling		

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	903346	06/14/04	Electra	673	DP-8	06/30/04	0.180	NA	93.0	NA	S
2	702575	06/14/04	Electra	680	DP-8	12/08/04	0.167	NA	93.0	NA	S
3	702567	06/14/04	Electra	660	DP-8	10/08/04	0.156	NA	93.0	NA	S
4	903346	06/14/04	Electra	1417	DP-6	12/03/04	0.207	NA	93.0	NA	T
5	702575	06/14/04	Electra	2394	DP-6	08/19/04	0.214	NA	93.0	NA	T
6	702575	06/14/04	SAC-4	830	NA	10/30/04	0.330	NA	16.0	NA	R
7	702567	06/14/04	Electra	667	DP-6	10/22/04	0.222	NA	93.0	NA	Q/S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

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Survey Area: A

Survey Unit: 881A04

Building: 881

Description: Building 881, Management Unit A, Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Walls and Ceiling

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A04PRP-N001	6	-0.3	N/A	
881A04PRP-N002	6	-0.3	N/A	
881A04PRP-N003	6	-0.3	N/A	
881A04PRP-N004	6	-0.3	N/A	
881A04PRP-N005	6	-0.3	N/A	
881A04PRP-N006	6	-0.3	N/A	
881A04PRP-N007	6	2.7	N/A	
881A04PRP-N008	6	-0.3	N/A	
881A04PRP-N009	6	-0.3	N/A	
881A04PRP-N010	6	-0.3	N/A	
881A04PRP-N011	6	-0.3	N/A	
881A04PRP-N012	6	2.7	N/A	
881A04PRP-N013	6	5.8	N/A	
881A04PRP-N014	6	-0.3	N/A	
881A04PRP-N015	6	-0.3	N/A	
881A04PRP-N016	6	-0.3	N/A	

Comments:

Survey Area: A

Survey Unit: 881A04

Building: 881

Description: Building 881 Management Unit A Rooms 112, 113, 125, 127, 130, 138, 139 & 151 Walls and Ceiling

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A04PRP-N001	4	-14.3	N/A	
881A04PRP-N002	4	43.6	N/A	
881A04QRP-N002	7	20.3	N/A	
881A04PRP-N003	4	14.6	N/A	
881A04PRP-N004	4	48.5	N/A	
881A04PRP-N005	4	5.0	N/A	
881A04PRP-N006	4	38.8	N/A	
881A04PRP-N007	5	59.6	N/A	
881A04PRP-N008	5	3.6	N/A	
881A04PRP-N009	5	26.9	N/A	
881A04PRP-N010	4	0.1	N/A	
881A04PRP-N011	5	59.6	N/A	
881A04QRP-N011	7	15.7	N/A	
881A04PRP-N012	5	8.2	N/A	
881A04PRP-N013	5	31.6	N/A	
881A04PRP-N014	5	40.9	N/A	
881A04PRP-N015	5	26.9	N/A	
881A04PRP-N016	5	36.3	N/A	

Comments:

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Survey Area: A**Survey Unit:** 881A05**Building:** 881**Description:** Room 112 Electrical Chase, all surfaces

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr QC Required: 2

Nbr Random Measurements Performed: 16

Nbr Biased Measurements Performed: 0

Nbr QC Performed: 2

Alpha

Maximum: 73.4 dpm/100cm²Minimum: -27.1 dpm/100cm²Mean: 20.7 dpm/100cm²

Standard Deviation: 26.6

QC Maximum: 27.1 dpm/100cm²QC Minimum: 18.0 dpm/100cm²QC Mean: 22.5 dpm/100cm²Uranium DCGL_w: 5,000.0 dpm/100cm²Uranium DCGL_{EMC}: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 16

Nbr Biased Measurements Performed: 0

Alpha

Maximum: 5.2 dpm/100cm²Minimum: -0.9 dpm/100cm²Mean: 0.6 dpm/100cm²

Standard Deviation: 2.2

Uranium DCGL_w: 1,000.0

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: A

Survey Unit: 881A05

Building: 881

Description: Room 112:Electrical Chase all surfaces

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	702567	06/13/04	Electra	673	DP-8	06/30/04	0.180	NA	93.0	NA	S
2	702567	06/13/04	SAC-4	830	NA	10/30/04	0.330	NA	16.0	NA	R
3	702567	06/13/04	Electra	2136	DP-6	08/02/04	0.229	NA	93.0	NA	T/S
4	712193	06/13/04	Electra	1434	DP-6	11/25/04	0.222	NA	93.0	NA	Q

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

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Survey Area: A

Survey Unit: 881A05

Building: 881

Description: Room 112 Electrical Chase, all surfaces

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A05PRP-N001	2	-0.9	N/A	
881A05PRP-N002	2	-0.9	N/A	
881A05PRP-N003	2	2.1	N/A	
881A05PRP-N004	2	-0.9	N/A	
881A05PRP-N005	2	-0.9	N/A	
881A05PRP-N006	2	-0.9	N/A	
881A05PRP-N007	2	-0.9	N/A	
881A05PRP-N008	2	-0.9	N/A	
881A05PRP-N009	2	5.2	N/A	
881A05PRP-N010	2	2.1	N/A	
881A05PRP-N011	2	-0.9	N/A	
881A05PRP-N012	2	2.1	N/A	
881A05PRP-N013	2	2.1	N/A	
881A05PRP-N014	2	-0.9	N/A	
881A05PRP-N015	2	-0.9	N/A	
881A05PRP-N016	2	5.2	N/A	

Comments:

Survey Area: A

Survey Unit: 881A05

Building: 881

Description: Room 112 Electrical Chase, all surfaces

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881A05PRP-N001	3	-22.7	N/A	
881A05PRP-N002	3	-27.1	N/A	
881A05PRP-N003	3	25.3	N/A	
881A05PRP-N004	3	29.7	N/A	
881A05QRP-N004	4	27.1	N/A	
881A05PRP-N005	3	38.4	N/A	
881A05PRP-N006	3	16.6	N/A	
881A05PRP-N007	3	3.5	N/A	
881A05PRP-N008	3	73.4	N/A	
881A05PRP-N009	3	21.0	N/A	
881A05PRP-N010	3	51.5	N/A	
881A05QRP-N010	4	18.0	N/A	
881A05PRP-N011	3	34.1	N/A	
881A05PRP-N012	3	47.2	N/A	
881A05PRP-N013	3	16.6	N/A	
881A05PRP-N014	3	7.9	N/A	
881A05PRP-N015	3	25.3	N/A	
881A05PRP-N016	3	-9.6	N/A	

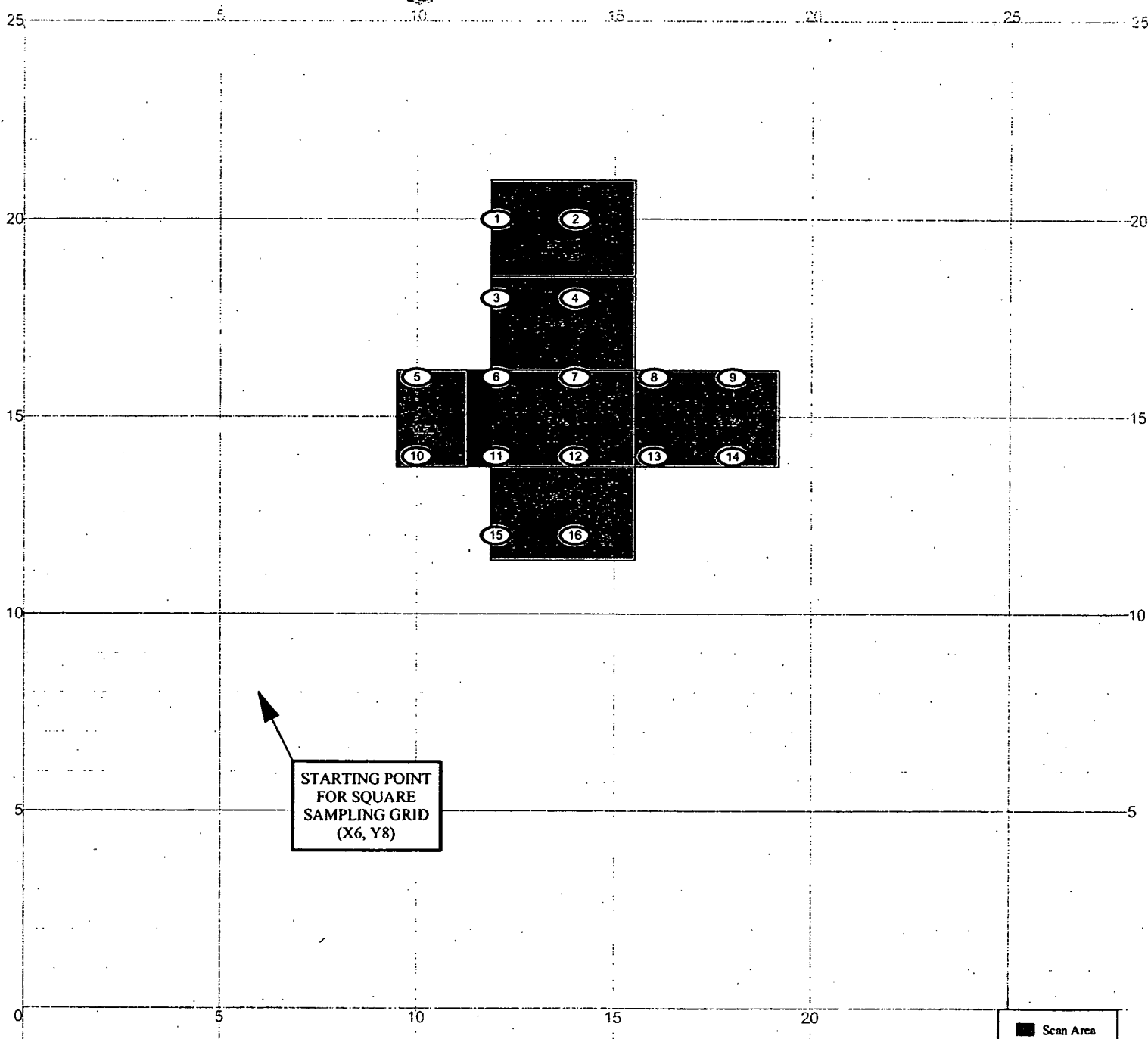
Comments:

147

PRE-DEMOLITION SURVEY FOR B881

Survey Area: A Survey Unit: 881A05 Classification: 1
Building: 881
Survey Unit Description: Building 881 Management Unit A, Room 112, Electrical Chase,
All surfaces
Total Area: 50 sq. m. Total Floor Area: 9 sq. m.
Grid Spacing for Survey Points: 2 m. X 2 m.

PAGE 1 OF 1

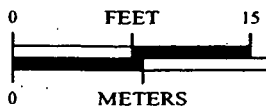


STARTING POINT
FOR SQUARE
SAMPLING GRID
(X6, Y8)

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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1 inch = 12 feet 1 grid sq. = 1 sq. m.

Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1, 3

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0568/881A05-SC

June 4, 2004

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Survey Area: E

Survey Unit: 881E01

Building: 881

Description: B881 MU-E Room 154 Floor

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 25

Nbr Biased Measurements Required: 0

Nbr QC Required: 2

Nbr Random Measurements Performed: 31

Nbr Biased Measurements Performed: 3

Nbr QC Performed: 2

Alpha

Maximum: 1,427.6 dpm/100cm²

Minimum: 28.1 dpm/100cm²

Mean: 222.6 dpm/100cm²

Standard Deviation: 310.5

QC Maximum: 1,669.2 dpm/100cm²

QC Minimum: 1,350.8 dpm/100cm²

QC Mean: 1,510.0 dpm/100cm²

Uranium DCGLw: 5,000.0 dpm/100cm²

Uranium DCGL_{EMC}: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 25

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 31

Nbr Biased Measurements Performed: 3

Alpha

Maximum: 17.3 dpm/100cm²

Minimum: -0.9 dpm/100cm²

Mean: 4.7 dpm/100cm²

Standard Deviation: 5.1

Uranium DCGLw: 1,000.0

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

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Survey Area: E

Survey Unit: 881E01

Building: 881

Description: B881 MU-E Room 154 Floor

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	711447	03/01/04	Electra	661	DP-6	07/07/04	0.167	NA	93.0	NA	S
2	712193	03/01/04	Electra	3109	DP-6	06/08/04	0.216	NA	93.0	NA	I/S
3	711447	03/02/04	Electra	662	DP-6	03/15/04	0.217	NA	93.0	NA	T/I/Q
4	712193	03/02/04	Electra	3109	DP-6	06/08/04	0.216	NA	93.0	NA	T
6	711447	03/02/04	SAC-4	960	NA	07/08/04	0.330	NA	16.0	NA	R
7	712193	03/03/04	Electra	3105	DP-6	07/14/04	0.201	NA	93.0	NA	T

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: E

Survey Unit: 881E01

Building: 881

Description: B881 MU-E Room 154:Floor

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E01PRP-N001	6	11.2	N/A	
881E01PRP-N002	6	5.2	N/A	
881E01PRP-N003	6	8.2	N/A	
881E01PRP-N004	6	5.2	N/A	
881E01PRP-N005	6	2.1	N/A	
881E01PRP-N006	6	11.2	N/A	
881E01PRP-N007	6	2.1	N/A	
881E01PRP-N008	6	2.1	N/A	
881E01PRP-N009	6	-0.9	N/A	
881E01PRP-N010	6	2.1	N/A	
881E01PRP-N011	6	2.1	N/A	
881E01PRP-N012	6	2.1	N/A	
881E01PRP-N013	6	11.2	N/A	
881E01PRP-N014	6	2.1	N/A	
881E01PRP-N015	6	2.1	N/A	
881E01PRP-N016	6	5.2	N/A	
881E01PRP-N017	6	8.2	N/A	
881E01PRP-N018	6	-0.9	N/A	
881E01PRP-N019	6	5.2	N/A	
881E01PRP-N020	6	2.1	N/A	
881E01PRP-N021	6	-0.9	N/A	
881E01PRP-N022	6	5.2	N/A	
881E01PRP-N023	6	2.1	N/A	
881E01PRP-N024	6	2.1	N/A	
881E01PRP-N025	6	2.1	N/A	
881E01PRP-N026	6	-0.9	N/A	
881E01PRP-N027	6	8.2	N/A	
881E01PRP-N028	6	-0.9	N/A	
881E01PRP-N029	6	14.2	N/A	

151

Survey Area: E

Survey Unit: 881E01

Building: 881

Description: B881 MU-E Room 154 Floor

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E01PRP-N030	6	2.1	N/A	
881E01PRP-N031	6	-0.9	N/A	

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E01PBP-N032	6	5.2	N/A	
881E01PBP-N033	6	17.3	N/A	
881E01PBP-N034	6	17.3	N/A	

Comments:

Survey Area: E

Survey Unit: 881E01

Building: 881

Description: B881 MU-E Room 154 Floor

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E01PRP-N001	3	989.8	N/A	
881E01QRP-N001	7	1,350.8	N/A	
881E01PRP-N002	3	160.3	N/A	
881E01PRP-N003	3	52.9	N/A	
881E01PRP-N004	3	37.3	N/A	
881E01PRP-N005	3	108.2	N/A	
881E01PRP-N006	3	40.5	N/A	
881E01PRP-N007	3	129.4	N/A	
881E01PRP-N008	3	28.1	N/A	
881E01PRP-N009	3	37.3	N/A	
881E01PRP-N010	3	77.4	N/A	
881E01PRP-N011	3	773.2	N/A	
881E01PRP-N012	3	71.4	N/A	
881E01PRP-N013	3	681.1	N/A	
881E01PRP-N014	3	182.0	N/A	
881E01PRP-N015	3	71.4	N/A	
881E01PRP-N016	4	222.7	N/A	
881E01PRP-N017	3	34.5	N/A	
881E01PRP-N018	4	480.6	N/A	
881E01PRP-N019	3	68.1	N/A	
881E01PRP-N020	4	77.8	N/A	
881E01PRP-N021	3	341.4	N/A	
881E01PRP-N022	4	71.8	N/A	
881E01PRP-N023	3	71.4	N/A	
881E01PRP-N024	4	65.3	N/A	
881E01PRP-N025	3	298.6	N/A	
881E01PRP-N026	4	74.6	N/A	

153

Survey Area: E

Survey Unit: 881E01

Building: 881

Description: B881 MU-E Room 154 Floor

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E01PRP-N027	3	1,427.6	N/A	
881E01QRP-N027	7	1,669.2	N/A	
881E01PRP-N028	4	176.4	N/A	
881E01PRP-N029	3	246.5	N/A	
881E01PRP-N030	4	62.5	N/A	
881E01PRP-N031	4	65.3	N/A	

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E01IBP-N032	2	43.5	N/A	
881E01IBP-N033	3	77.0	N/A	
881E01IBP-N034	3	221.2	N/A	

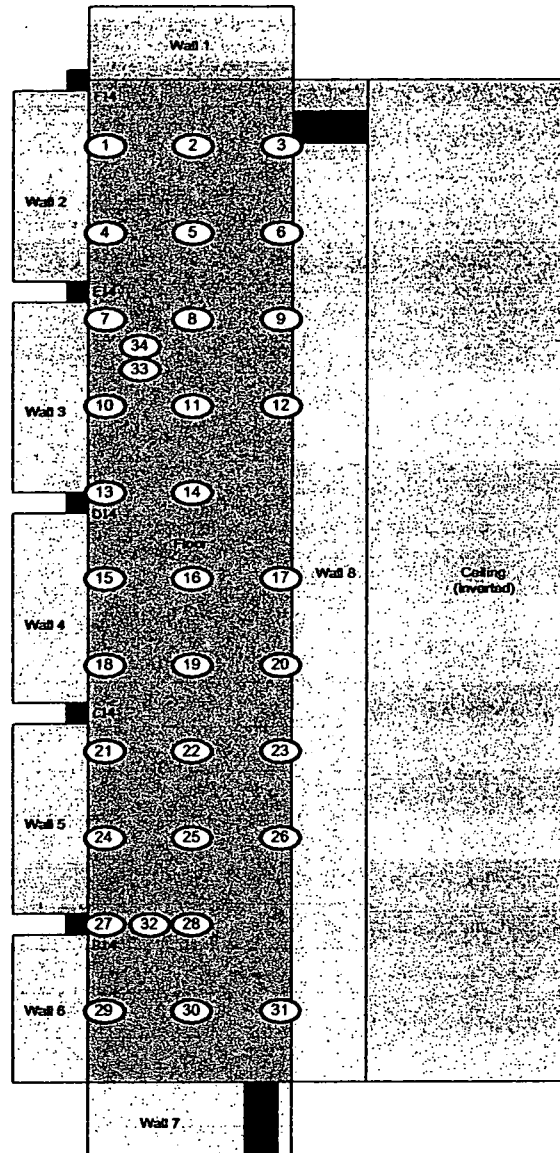
Comments: Scans performed at 4"/second at shaded areas indicated on map. All detected alpha count rates verified to be less than 5,000 dpm/100cm². Locations 32, 33, and 34 were identified during the scan survey. The initial Alpha net activity for these locations were 5,321.0, 4,654.3 and 6200.6 dpm/100cm² respectively. These locations were deconned and resurveyed. Re-survey results are reported. No further investigation is required.

PRE-DEMOLITION SURVEY FOR B881

Survey Area: E Survey Unit: 881E01 Classification: 1
 Building: 881
 Survey Unit Description: Building 881, Management Unit E, Room 154, Floor
 Total Area: 168 sq. m. Total Floor Area: 168 sq. m.
 Grid Spacing for Survey Points: 2.5 m. X 2.5 m.

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Room 154



STARTING POINT
FOR SQUARE
SAMPLING GRID
(X31, Y15)

SURVEY MAP LEGEND (●) Smear & TSA Location (◆) Smear, TSA & Sample Location (■) Open/Inaccessible Area (□) Area in Another Survey Unit		Neither the United States Government nor Kaiser Hill Co., nor CH2MHILL, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.		Scan Survey Information Survey Instrument ID #(s) & RCT ID #(s): 1, 2		N 0 FEET 25 0 METERS 8 1 inch = 18 feet 1 grid sq. = 1 sq. m.		U.S. Department of Energy Rocky Flats Environmental Technology Site Prepared by: GIS Dept. 303-966-7707 Prepared for:	
						CH2MHILL Communications Group MAP ID: 03-0568/881E01-SC		KAISER HILL Mar. 11, 2004	

155

Survey Area: E**Survey Unit:** 881E02**Building:** 881**Description:** Building 881, Management Unit E, Room 154 Walls and Ceiling

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr QC Required: 2

Nbr Random Measurements Performed: 20

Nbr Biased Measurements Performed: 0

Nbr QC Performed: 2

Alpha

Maximum: 41.8 dpm/100cm²Minimum: -12.9 dpm/100cm²Mean: 11.9 dpm/100cm²

Standard Deviation: 13.4

QC Maximum: 44.7 dpm/100cm²QC Minimum: 36.9 dpm/100cm²QC Mean: 40.8 dpm/100cm²Uranium DCGLW: 5,000.0 dpm/100cm²Uranium DCGL_{EMC}: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 20

Nbr Biased Measurements Performed: 0

Alpha

Maximum: 5.2 dpm/100cm²Minimum: -0.9 dpm/100cm²Mean: 2.4 dpm/100cm²

Standard Deviation: 2.4

Uranium DCGLW: 1,000.0

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

156

Survey Area: E

Survey Unit: 881E02

Building: 881

Description: Building 881 Management Unit E Room 154 Walls and Ceiling

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	712193	03/01/04	Electra	661	DP-8	07/07/04	0.167	NA	93.0	NA	S
2	712193	03/01/04	Electra	3109	DP-6	06/08/04	0.216	NA	93.0	NA	S
3	712193	03/02/04	Electra	3105	DP-6	07/14/04	0.201	NA	93.0	NA	T/S
4	712193	03/02/04	SAC-4	960	NA	07/08/04	0.330	NA	16.0	NA	R
6	711447	03/03/04	Electra	662	DP-6	03/15/04	0.217	NA	93.0	NA	T/Q/S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: E

Survey Unit: 881E02

Building: 881

Description: Building 881, Management Unit E, Room 154 Walls and Ceiling

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E02PRP-N001	4	2.1	N/A	
881E02PRP-N002	4	-0.9	N/A	
881E02PRP-N003	4	2.1	N/A	
881E02PRP-N004	4	2.1	N/A	
881E02PRP-N005	4	5.2	N/A	
881E02PRP-N006	4	2.1	N/A	
881E02PRP-N007	4	5.2	N/A	
881E02PRP-N008	4	5.2	N/A	
881E02PRP-N009	4	-0.9	N/A	
881E02PRP-N010	4	2.1	N/A	
881E02PRP-N011	4	2.1	N/A	
881E02PRP-N012	4	5.2	N/A	
881E02PRP-N013	4	5.2	N/A	
881E02PRP-N014	4	2.1	N/A	
881E02PRP-N015	4	-0.9	N/A	
881E02PRP-N016	4	2.1	N/A	
881E02PRP-N017	4	-0.9	N/A	
881E02PRP-N018	4	-0.9	N/A	
881E02PRP-N019	4	5.2	N/A	
881E02PRP-N020	4	5.2	N/A	

Comments:

158

Survey Area: E

Survey Unit: 881E02

Building: 881

Description: Building 881, Management Unit E, Room 154 Walls and Ceiling

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E02PRP-N001	3	36.8	N/A	
881E02PRP-N002	3	2.0	N/A	
881E02PRP-N003	3	26.9	N/A	
881E02QRP-N003	6	44.7	N/A	
881E02PRP-N004	3	7.0	N/A	
881E02PRP-N005	3	7.0	N/A	
881E02PRP-N006	3	16.9	N/A	
881E02PRP-N007	3	-8.0	N/A	
881E02PRP-N008	3	16.9	N/A	
881E02PRP-N009	3	-3.0	N/A	
881E02PRP-N010	3	16.9	N/A	
881E02PRP-N011	3	16.9	N/A	
881E02PRP-N012	3	2.0	N/A	
881E02PRP-N013	3	16.9	N/A	
881E02PRP-N014	3	16.9	N/A	
881E02PRP-N015	3	11.9	N/A	
881E02PRP-N016	3	7.0	N/A	
881E02PRP-N017	3	7.0	N/A	
881E02PRP-N018	3	41.8	N/A	
881E02QRP-N018	6	36.9	N/A	
881E02PRP-N019	3	11.9	N/A	
881E02PRP-N020	3	-12.9	N/A	

Comments: Scans performed at 4"/second at shaded areas indicated on map. All detected alpha count rates verified to be less than 5,000 dpm/100cm².

159

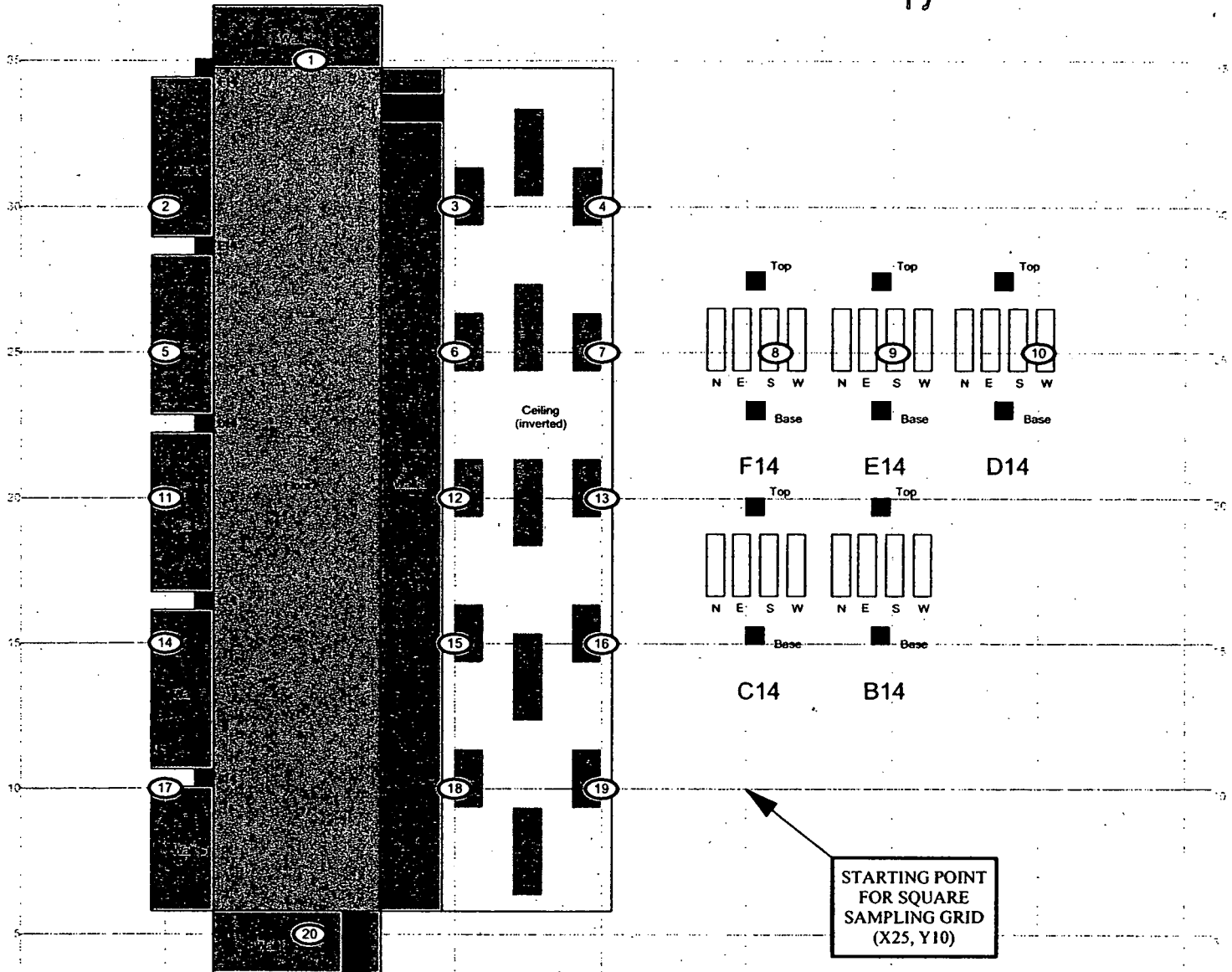
PRE-DEMOLITION SURVEY FOR B881

Survey Area: E Survey Unit: 881E02 Classification: 2
 Building: 881
 Survey Unit Description: Building 881, Management Unit E, Room 154, Walls & Ceiling
 Total Area: 333 sq. m. Total Floor Area: 168 sq. m.
 Grid Spacing for Survey Points: 5 m. X 5 m.

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Room 154

Best Available Copy

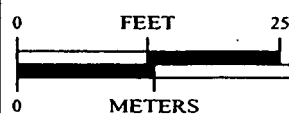


SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1, 2



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Communications Group



KAISER HILL

MAP ID: 03-0568/881E02-SC

Mar. 11, 2004

160

Survey Area: E	Survey Unit: 881E03	Building: 881
Description: Building 881, Management Unit E, Rooms 114A - 114F, Floors		

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 84	Nbr Biased Measurements Required: 0	Nbr QC Required: 5
Nbr Random Measurements Performed: 86	Nbr Biased Measurements Performed: 0	Nbr QC Performed: 5

Alpha

Maximum:	830.0 dpm/100cm ²
Minimum:	-25.4 dpm/100cm ²
Mean:	168.3 dpm/100cm ²
Standard Deviation:	165.8
QC Maximum:	297.2 dpm/100cm ²
QC Minimum:	72.5 dpm/100cm ²
QC Mean:	157.8 dpm/100cm ²
Uranium DCGLw:	5,000.0 dpm/100cm ²
Uranium DCGL _{EMC} :	15,000.0 dpm/100cm ²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 84	Nbr Biased Measurements Required: 0
Nbr Random Measurements Performed: 86	Nbr Biased Measurements Performed: 0

Alpha

Maximum:	33.0 dpm/100cm ²
Minimum:	-0.3 dpm/100cm ²
Mean:	3.8 dpm/100cm ²
Standard Deviation:	5.7
Uranium DCGLw:	1,000.0

Media Sample Results

Nbr Random Required: 0	Nbr Biased Required: 0
Nbr Random Collected: 0	Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

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Survey Area: E

Survey Unit: 881E03

Building: 881

Description: Building 881, Management Unit E, Rooms 114A - 114F, Floors

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	712193	06/11/04	Electra	1241	DP-8	10/06/04	0.193	NA	93.0	NA	S
2	702567	06/11/04	Electra	680	DP-8	12/08/04	0.167	NA	93.0	NA	S
3	702575	06/11/04	Electra	632	DP-8	07/07/04	0.163	NA	93.0	NA	S
4	903346	06/11/04	Electra	1241	DP-8	10/06/04	0.193	NA	93.0	NA	S
5	711447	06/11/04	Electra	663	DP-6	09/18/04	0.218	NA	93.0	NA	S
6	702567	06/12/04	Electra	662	DP-6	12/10/04	0.217	NA	93.0	NA	T/S
7	711451	06/12/04	Electra	2394	DP-6	08/19/04	0.214	NA	93.0	NA	T/S
8	702575	06/12/04	Electra	663	DP-6	09/18/04	0.218	NA	93.0	NA	Q/S
9	712193	06/12/04	SAC-4	830	NA	10/30/04	0.330	NA	16.0	10.0	R
10	711447	06/12/04	Electra	667	DP-6	10/22/04	0.222	NA	93.0	NA	S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

162

Survey Area: E	Survey Unit: 881E03	Building: 881
Description: Building 881, Management Unit E, Rooms 114A - 114F, Floors		

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E03PRP-N001	9	2.7	N/A	
881E03PRP-N002	9	2.7	N/A	
881E03PRP-N003	9	-0.3	N/A	
881E03PRP-N004	9	2.7	N/A	
881E03PRP-N005	9	-0.3	N/A	
881E03PRP-N006	9	2.7	N/A	
881E03PRP-N007	9	-0.3	N/A	
881E03PRP-N008	9	-0.3	N/A	
881E03PRP-N009	9	-0.3	N/A	
881E03PRP-N010	9	5.8	N/A	
881E03PRP-N011	9	14.9	N/A	
881E03PRP-N012	9	2.7	N/A	
881E03PRP-N013	9	-0.3	N/A	
881E03PRP-N014	9	-0.3	N/A	
881E03PRP-N015	9	-0.3	N/A	
881E03PRP-N016	9	-0.3	N/A	
881E03PRP-N017	9	2.7	N/A	
881E03PRP-N018	9	2.7	N/A	
881E03PRP-N019	9	5.8	N/A	
881E03PRP-N020	9	-0.3	N/A	
881E03PRP-N021	9	5.8	N/A	
881E03PRP-N022	9	5.8	N/A	
881E03PRP-N023	9	5.8	N/A	
881E03PRP-N024	9	33.0	N/A	
881E03PRP-N025	9	14.9	N/A	
881E03PRP-N026	9	20.9	N/A	
881E03PRP-N027	9	5.8	N/A	
881E03PRP-N028	9	-0.3	N/A	
881E03PRP-N029	9	2.7	N/A	

163

Survey Area: E

Survey Unit: 881E03

Building: 881

Description: Building 881, Management Unit E, Rooms 114A - 114F, Floors

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E03PRP-N030	9	5.8	N/A	
881E03PRP-N031	9	11.8	N/A	
881E03PRP-N032	9	5.8	N/A	
881E03PRP-N033	9	2.7	N/A	
881E03PRP-N034	9	11.8	N/A	
881E03PRP-N035	9	-0.3	N/A	
881E03PRP-N036	9	-0.3	N/A	
881E03PRP-N037	9	-0.3	N/A	
881E03PRP-N038	9	2.7	N/A	
881E03PRP-N039	9	5.8	N/A	
881E03PRP-N040	9	2.7	N/A	
881E03PRP-N041	9	2.7	N/A	
881E03PRP-N042	9	5.8	N/A	
881E03PRP-N043	9	8.8	N/A	
881E03PRP-N044	9	11.8	N/A	
881E03PRP-N045	9	5.8	N/A	
881E03PRP-N046	9	2.7	N/A	
881E03PRP-N047	9	2.7	N/A	
881E03PRP-N048	9	2.7	N/A	
881E03PRP-N049	9	2.7	N/A	
881E03PRP-N050	9	-0.3	N/A	
881E03PRP-N051	9	-0.3	N/A	
881E03PRP-N052	9	2.7	N/A	
881E03PRP-N053	9	-0.3	N/A	
881E03PRP-N054	9	-0.3	N/A	
881E03PRP-N055	9	-0.3	N/A	
881E03PRP-N056	9	2.7	N/A	
881E03PRP-N057	9	2.7	N/A	
881E03PRP-N058	9	2.7	N/A	

164

Survey Area: E

Survey Unit: 881E03

Building: 881

Description: Building 881, Management Unit E, Rooms 114A - 114F, Floors

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E03PRP-N059	9	2.7	N/A	
881E03PRP-N060	9	-0.3	N/A	
881E03PRP-N061	9	-0.3	N/A	
881E03PRP-N062	9	-0.3	N/A	
881E03PRP-N063	9	-0.3	N/A	
881E03PRP-N064	9	2.7	N/A	
881E03PRP-N065	9	5.8	N/A	
881E03PRP-N066	9	5.8	N/A	
881E03PRP-N067	9	2.7	N/A	
881E03PRP-N068	9	-0.3	N/A	
881E03PRP-N069	9	-0.3	N/A	
881E03PRP-N070	9	-0.3	N/A	
881E03PRP-N071	9	-0.3	N/A	
881E03PRP-N072	9	2.7	N/A	
881E03PRP-N073	9	2.7	N/A	
881E03PRP-N074	9	5.8	N/A	
881E03PRP-N075	9	2.7	N/A	
881E03PRP-N076	9	2.7	N/A	
881E03PRP-N077	9	2.7	N/A	
881E03PRP-N078	9	2.7	N/A	
881E03PRP-N079	9	2.7	N/A	
881E03PRP-N080	9	2.7	N/A	
881E03PRP-N081	9	8.8	N/A	
881E03PRP-N082	9	27.0	N/A	
881E03PRP-N083	9	-0.3	N/A	
881E03PRP-N084	9	-0.3	N/A	
881E03PRP-N085	9	2.7	N/A	
881E03PRP-N086	9	5.8	N/A	

Comments:

165

Survey Area: E

Survey Unit: 881E03

Building: 881

Description: Building 881, Management Unit E, Rooms 114A - 114F, Floors

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E03PRP-N001	6	66.8	N/A	
881E03PRP-N002	7	124.4	N/A	
881E03QRP-N002	8	297.2	N/A	
881E03PRP-N003	6	264.9	N/A	
881E03PRP-N004	7	161.7	N/A	
881E03PRP-N005	6	154.3	N/A	
881E03PRP-N006	7	830.0	N/A	
881E03PRP-N007	6	347.9	N/A	
881E03PRP-N008	7	133.7	N/A	
881E03PRP-N009	6	76.0	N/A	
881E03PRP-N010	7	624.4	N/A	
881E03PRP-N011	6	39.1	N/A	
881E03PRP-N012	7	87.0	N/A	
881E03PRP-N013	6	255.7	N/A	
881E03PRP-N014	7	119.7	N/A	
881E03PRP-N015	6	89.8	N/A	
881E03PRP-N016	7	231.8	N/A	
881E03PRP-N017	6	297.2	N/A	
881E03PRP-N018	7	577.6	N/A	
881E03PRP-N019	6	186.6	N/A	
881E03PRP-N020	7	96.3	N/A	
881E03PRP-N021	6	-25.4	N/A	
881E03PRP-N022	7	-6.5	N/A	
881E03PRP-N023	6	29.9	N/A	
881E03PRP-N024	7	58.9	N/A	
881E03PRP-N025	6	11.5	N/A	
881E03PRP-N026	7	227.2	N/A	

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Survey Area: E

Survey Unit: 881E03

Building: 881

Description: Building 881, Management Unit E, Rooms 114A - 114F, Floors

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E03PRP-N027	6	108.3	N/A	
881E03PRP-N028	7	91.6	N/A	
881E03PRP-N029	6	269.6	N/A	
881E03PRP-N030	7	577.6	N/A	
881E03PRP-N031	6	264.9	N/A	
881E03PRP-N032	7	91.6	N/A	
881E03PRP-N033	6	168.2	N/A	
881E03PRP-N034	7	58.9	N/A	
881E03PRP-N035	6	89.8	N/A	
881E03PRP-N036	7	49.6	N/A	
881E03QRP-N036	8	100.0	N/A	
881E03PRP-N037	6	205.0	N/A	
881E03PRP-N038	7	77.6	N/A	
881E03PRP-N039	6	43.7	N/A	
881E03PRP-N040	7	87.0	N/A	
881E03QRP-N040	8	168.8	N/A	
881E03PRP-N041	6	172.8	N/A	
881E03PRP-N042	7	49.6	N/A	
881E03PRP-N043	6	135.9	N/A	
881E03PRP-N044	7	105.7	N/A	
881E03PRP-N045	6	34.5	N/A	
881E03PRP-N046	7	7.5	N/A	
881E03PRP-N047	6	29.9	N/A	
881E03PRP-N048	7	2.9	N/A	
881E03PRP-N049	6	6.9	N/A	
881E03PRP-N050	7	157.1	N/A	
881E03PRP-N051	6	43.7	N/A	

167

Survey Area: E

Survey Unit: 881E03

Building: 881

Description: Building 881, Management Unit E, Rooms 114A - 114F, Floors

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E03PRP-N052	7	372.0	N/A	
881E03PRP-N053	6	80.6	N/A	
881E03PRP-N054	7	189.8	N/A	
881E03PRP-N055	6	145.1	N/A	
881E03PRP-N056	7	115.0	N/A	
881E03PRP-N057	6	39.1	N/A	
881E03PRP-N058	7	44.9	N/A	
881E03PRP-N059	6	53.0	N/A	
881E03PRP-N060	7	194.4	N/A	
881E03PRP-N061	6	324.9	N/A	
881E03PRP-N062	7	77.6	N/A	
881E03PRP-N063	6	430.8	N/A	
881E03PRP-N064	7	68.3	N/A	
881E03PRP-N065	6	241.9	N/A	
881E03PRP-N066	7	101.0	N/A	
881E03QRP-N066	8	150.5	N/A	
881E03PRP-N067	6	29.9	N/A	
881E03PRP-N068	7	72.9	N/A	
881E03PRP-N069	6	66.8	N/A	
881E03PRP-N070	7	77.6	N/A	
881E03PRP-N071	6	246.5	N/A	
881E03PRP-N072	7	77.6	N/A	
881E03PRP-N073	6	394.0	N/A	
881E03PRP-N074	7	157.1	N/A	
881E03PRP-N075	6	384.8	N/A	
881E03PRP-N076	7	199.1	N/A	
881E03PRP-N077	6	43.7	N/A	

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Survey Area: E**Survey Unit:** 881E03**Building:** 881**Description:** Building 881, Management Unit E, Rooms 114A - 114F, Floors**Random/QC Total Surface Activity Data Sheet**

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E03PRP-N078	7	115.0	N/A	
881E03QRP-N078	8	72.5	N/A	
881E03PRP-N079	6	288.0	N/A	
881E03PRP-N080	7	105.7	N/A	
881E03PRP-N081	6	39.1	N/A	
881E03PRP-N082	7	764.5	N/A	
881E03PRP-N083	6	403.2	N/A	
881E03PRP-N084	7	138.4	N/A	
881E03PRP-N085	6	218.9	N/A	
881E03PRP-N086	7	180.4	N/A	

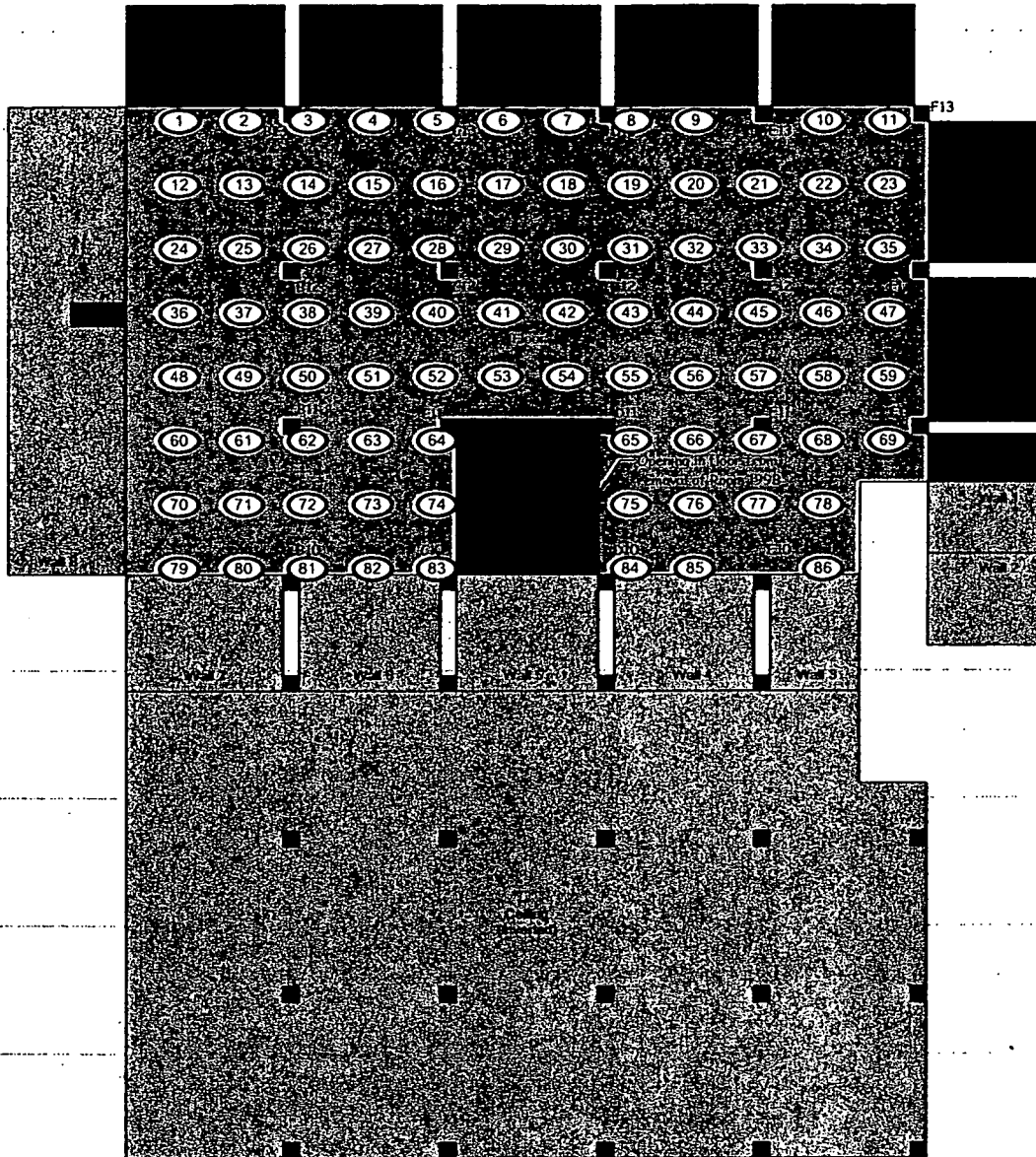
Comments:

PRE-DEMOLITION SURVEY FOR B881

Survey Area: E Survey Unit: 881E03 Classification: 1
 Building: 881
 Survey Unit Description: Building 881, Management Unit E, Room 114A - 114F, Floor
 Total Area: 559 sq. m. Total Floor Area: 559 sq. m.
 Grid Spacing for Survey Points: 2.5 m. X 2.5 m.

PAGE 1 OF 1

Room 114



**STARTING POINT
FOR SQUARE
SAMPLING GRID
(X2, Y4)**

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<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Smear & TSA Location Smear, TSA & Sample Location Open/Inaccessible Area Area in Another Survey Unit 	<p>Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p> <p>Scan Survey Information Survey Instrument ID #(s) & RCT ID #(s): 1-8, 10</p>	<p>N</p> <p>↑</p> <p>0 FEET 30</p> <p>0 METERS 10</p> <p>1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p>U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GIS Dept. 303-966-7707 Prepared for:</p> <p>CH2MHILL Environmental Group</p> <p>KAISER HILL CONSULTANTS</p> <p>MAP ID: 03-0568/881E03-SC June 09, 2004</p>
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170

Survey Area: E

Survey Unit: 881E04

Building: 881

Description: Building 881: Management Unit E: Rooms 114A, 114F: Walls and Ceiling

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15
Nbr Random Measurements Performed: 20

Nbr Biased Measurements Required: 0
Nbr Biased Measurements Performed: 0

Nbr QC Required: 2
Nbr QC Performed: 2

Alpha

Maximum: 32.7 dpm/100cm²
Minimum: -23.5 dpm/100cm²
Mean: 3.9 dpm/100cm²
Standard Deviation: 15.4
QC Maximum: 33.8 dpm/100cm²
QC Minimum: 11.2 dpm/100cm²
QC Mean: 22.5 dpm/100cm²
Uranium DCGLw: 5,000.0 dpm/100cm²
Uranium DCGL_{EMC}: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15
Nbr Random Measurements Performed: 20

Nbr Biased Measurements Required: 0
Nbr Biased Measurements Performed: 0

Alpha

Maximum: 2.1 dpm/100cm²
Minimum: -1.5 dpm/100cm²
Mean: -0.2 dpm/100cm²
Standard Deviation: 1.5
Uranium DCGLw: 1,000.0

Media Sample Results

Nbr Random Required: 0
Nbr Random Collected: 0

Nbr Biased Required: 0
Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: E	Survey Unit: 881E04	Building: 881
Description: Building 881 Management Unit Rooms 114A-114F Walls and Ceiling		

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	702575	06/12/04	Electra	1241	DP-8	10/06/04	0.193	NA	93.0	NA	S
2	702567	06/12/04	Electra	680	DP-8	12/08/04	0.167	NA	93.0	NA	S
3	712193	06/12/04	Electra	632	DP-8	07/07/04	0.163	NA	93.0	NA	S
4	711451	06/12/04	Electra	2394	DP-6	08/19/04	0.214	NA	93.0	NA	T/S
5	702575	06/12/04	Electra	663	DP-6	09/18/04	0.218	NA	93.0	NA	T/S
6	712193	06/12/04	Electra	667	DP-6	10/22/04	0.222	NA	93.0	NA	Q/S
7	711451	06/13/04	SAC-4	961	NA	09/30/04	0.330	NA	16.0	10.0	R
8	711451	06/13/04	SAC-4	830	NA	10/30/04	0.330	NA	16.0	10.0	R

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

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Survey Area: E

Survey Unit: 881E04

Building: 881

Description: Building 881 Management Unit E rooms 114A - 114F Walls and Ceiling

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E04PRP-N001	8	2.1	N/A	
881E04PRP-N002	8	2.1	N/A	
881E04PRP-N003	7	1.5	N/A	
881E04PRP-N004	8	-0.9	N/A	
881E04PRP-N005	7	1.5	N/A	
881E04PRP-N006	8	-0.9	N/A	
881E04PRP-N007	7	-1.5	N/A	
881E04PRP-N008	7	-1.5	N/A	
881E04PRP-N009	8	-0.9	N/A	
881E04PRP-N010	7	-1.5	N/A	
881E04PRP-N011	7	-1.5	N/A	
881E04PRP-N012	8	-0.9	N/A	
881E04PRP-N013	7	-1.5	N/A	
881E04PRP-N014	8	2.1	N/A	
881E04PRP-N015	7	1.5	N/A	
881E04PRP-N016	8	-0.9	N/A	
881E04PRP-N017	8	-0.9	N/A	
881E04PRP-N018	7	1.5	N/A	
881E04PRP-N019	8	-0.9	N/A	
881E04PRP-N020	7	-1.5	N/A	

Comments:

Survey Area: E	Survey Unit: 881E04	Building: 881
Description: Building 881, Management Unit E, rooms 114A-114F, Walls and Ceiling		

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E04PRP-N001	4	4.7	N/A	
881E04QRP-N001	6	11.2	N/A	
881E04PRP-N002	5	-9.8	N/A	
881E04PRP-N003	4	18.7	N/A	
881E04PRP-N004	5	26.9	N/A	
881E04PRP-N005	4	0.0	N/A	
881E04PRP-N006	5	-5.2	N/A	
881E04PRP-N007	4	-9.3	N/A	
881E04PRP-N008	5	-5.2	N/A	
881E04PRP-N009	4	18.7	N/A	
881E04PRP-N010	5	-0.6	N/A	
881E04PRP-N011	4	-4.7	N/A	
881E04PRP-N012	5	4.0	N/A	
881E04PRP-N013	4	-9.3	N/A	
881E04PRP-N014	5	-23.5	N/A	
881E04PRP-N015	4	-4.7	N/A	
881E04PRP-N016	5	22.3	N/A	
881E04QRP-N016	6	33.8	N/A	
881E04PRP-N017	4	32.7	N/A	
881E04PRP-N018	5	17.8	N/A	
881E04PRP-N019	4	-14.0	N/A	
881E04PRP-N020	5	17.8	N/A	

Comments:

174

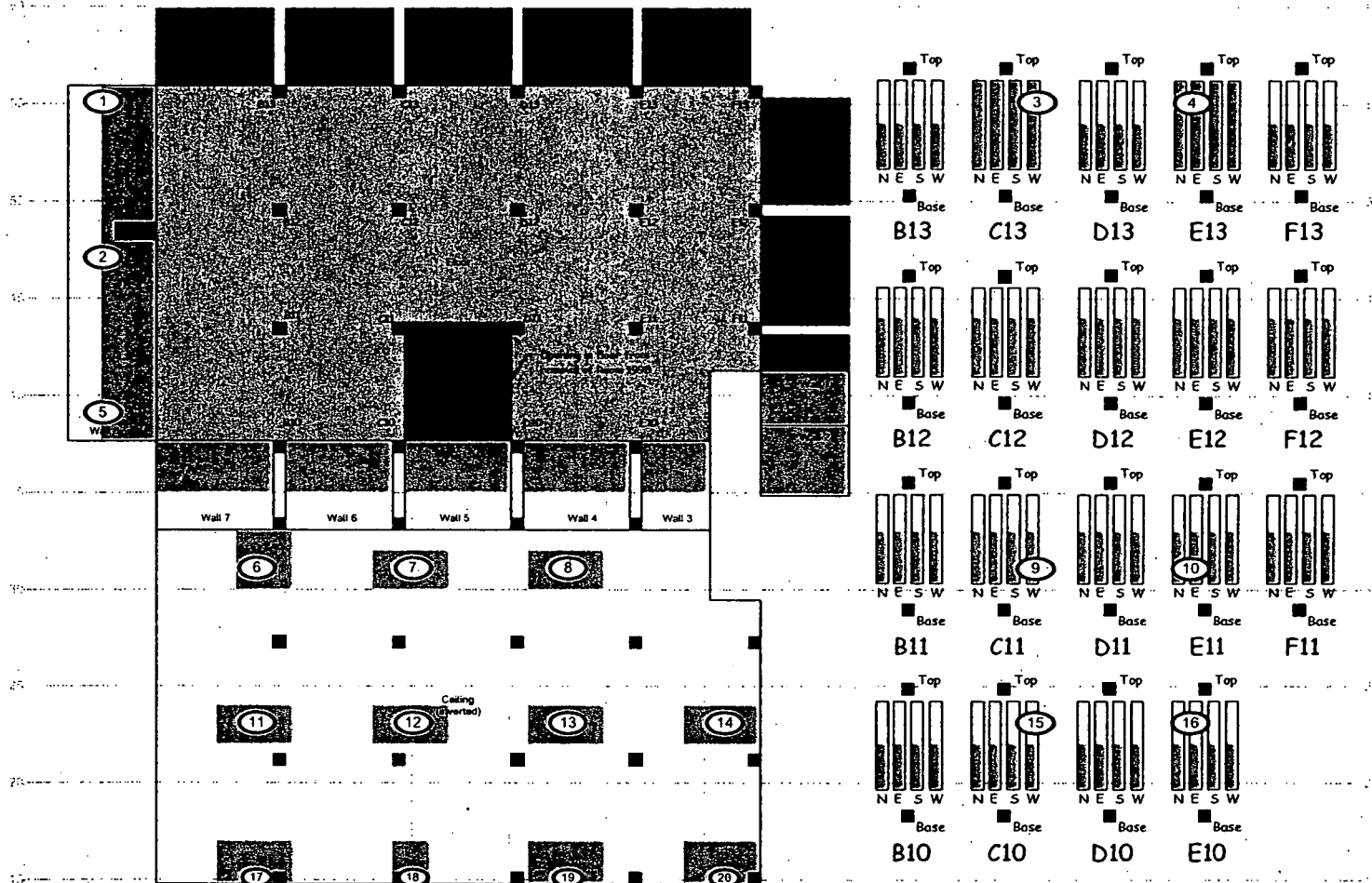
PRE-DEMOLITION SURVEY FOR B881

Survey Area: E Survey Unit: 881E04 Classification: 2
 Building: 881
 Survey Unit Description: Building 881, Management Unit E, Room 114A - 114F,
 Walls & Ceiling
 Total Area: 1,022 sq. m. Total Floor Area: 559 sq. m.
 Grid Spacing for Survey Points: 8 m. X 8 m.

PAGE 1 OF 1

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Room 114



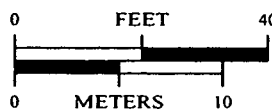
STARTING POINT
FOR SQUARE
SAMPLING GRID
(X12, Y7)

SURVEY MAP LEGEND

- Smear & TSA Location
- ◆ Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1-6



1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 COMMERCIAL GROUP



MAP ID: 03-0568/881E04-SC

June 09, 2004

175

Survey Area: E**Survey Unit:** 881E06**Building:** 881**Description:** Building 881, Management Unit E, Rooms 115A-F Floor

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 55

Nbr Biased Measurements Required: 0

Nbr QC Required: 3

Nbr Random Measurements Performed: 59

Nbr Biased Measurements Performed: 1

Nbr QC Performed: 3

Alpha

Maximum: 118.6 dpm/100cm²Minimum: -16.9 dpm/100cm²Mean: 30.8 dpm/100cm²

Standard Deviation: 27.3

QC Maximum: 36.7 dpm/100cm²QC Minimum: 23.0 dpm/100cm²QC Mean: 32.1 dpm/100cm²Uranium DCGL_w: 5,000.0 dpm/100cm²Uranium DCGL_{EMC}: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 55

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 59

Nbr Biased Measurements Performed: 1

Alpha

Maximum: 11.8 dpm/100cm²Minimum: -0.3 dpm/100cm²Mean: 2.6 dpm/100cm²

Standard Deviation: 3.9

Uranium DCGL_w: 1,000.0

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

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Survey Area: E

Survey Unit: 881E06

Building: 881

Description: Building 881, Management Unit E, Rooms 115A-F Floor

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	712193	06/08/04	Electra	675	DP-8	12/01/04	0.176	NA	93.0	NA	S
2	711447	06/08/04	Electra	632	DP-8	07/07/04	0.163	NA	93.0	NA	S
3	702575	06/08/04	Electra	681	DP-8	06/29/04	0.151	NA	93.0	NA	S
4	702567	06/09/04	Electra	2394	DP-6	08/19/04	0.214	NA	93.0	NA	T
5	712193	06/09/04	Electra	663	DP-6	09/18/04	0.218	NA	93.0	NA	Q
6	903346	06/09/04	SAC-4	830	NA	10/30/04	0.330	NA	16.0	NA	R

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

177

Survey Area: E

Survey Unit: 881E06

Building: 881

Description: Building 881, Management Unit E, Rooms 115A-F Floor

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E06PRP-N001	6	11.8	N/A	
881E06PRP-N002	6	8.8	N/A	
881E06PRP-N003	6	2.7	N/A	
881E06PRP-N004	6	5.8	N/A	
881E06PRP-N005	6	-0.3	N/A	
881E06PRP-N006	6	-0.3	N/A	
881E06PRP-N007	6	8.8	N/A	
881E06PRP-N008	6	-0.3	N/A	
881E06PRP-N009	6	2.7	N/A	
881E06PRP-N010	6	2.7	N/A	
881E06PRP-N011	6	-0.3	N/A	
881E06PRP-N012	6	-0.3	N/A	
881E06PRP-N013	6	5.8	N/A	
881E06PRP-N014	6	-0.3	N/A	
881E06PRP-N015	6	-0.3	N/A	
881E06PRP-N016	6	-0.3	N/A	
881E06PRP-N017	6	-0.3	N/A	
881E06PRP-N018	6	-0.3	N/A	
881E06PRP-N019	6	2.7	N/A	
881E06PRP-N020	6	-0.3	N/A	
881E06PRP-N021	6	2.7	N/A	
881E06PRP-N022	6	2.7	N/A	
881E06PRP-N023	6	5.8	N/A	
881E06PRP-N024	6	-0.3	N/A	
881E06PRP-N025	6	-0.3	N/A	
881E06PRP-N026	6	8.8	N/A	
881E06PRP-N027	6	2.7	N/A	
881E06PRP-N028	6	11.8	N/A	
881E06PRP-N029	6	-0.3	N/A	

178

Survey Area: E

Survey Unit: 881E06

Building: 881

Description: Building 881, Management Unit E, Rooms 115A-F Floor

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E06PRP-N030	6	2.7	N/A	
881E06PRP-N031	6	-0.3	N/A	
881E06PRP-N032	6	-0.3	N/A	
881E06PRP-N033	6	-0.3	N/A	
881E06PRP-N034	6	2.7	N/A	
881E06PRP-N035	6	11.8	N/A	
881E06PRP-N036	6	-0.3	N/A	
881E06PRP-N037	6	8.8	N/A	
881E06PRP-N038	6	5.8	N/A	
881E06PRP-N039	6	-0.3	N/A	
881E06PRP-N040	6	-0.3	N/A	
881E06PRP-N041	6	-0.3	N/A	
881E06PRP-N042	6	-0.3	N/A	
881E06PRP-N043	6	2.7	N/A	
881E06PRP-N044	6	8.8	N/A	
881E06PRP-N045	6	-0.3	N/A	
881E06PRP-N046	6	-0.3	N/A	
881E06PRP-N047	6	-0.3	N/A	
881E06PRP-N048	6	-0.3	N/A	
881E06PRP-N049	6	5.8	N/A	
881E06PRP-N050	6	-0.3	N/A	
881E06PRP-N051	6	2.7	N/A	
881E06PRP-N052	6	-0.3	N/A	
881E06PRP-N053	6	-0.3	N/A	
881E06PRP-N054	6	11.8	N/A	
881E06PRP-N055	6	2.7	N/A	
881E06PRP-N056	6	-0.3	N/A	
881E06PRP-N057	6	-0.3	N/A	
881E06PRP-N058	6	8.8	N/A	

Survey Area: E**Survey Unit:** 881E06**Building:** 881**Description:** Building 881, Management Unit E, Rooms 115A-F Floor**Random Removable Surface Activity Data Sheet**

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E06PRP-N059	6	5.8	N/A	

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E06PBP-N060	6	-0.3	N/A	

Comments:

180

Survey Area: E

Survey Unit: 881E06

Building: 881

Description: Building 881, Management Unit E, Rooms 115A-F Floor

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E06PRP-N001	4	76.6	N/A	
881E06PRP-N002	4	39.2	N/A	
881E06PRP-N003	4	12.2	N/A	
881E06PRP-N004	4	11.1	N/A	
881E06PRP-N005	4	11.1	N/A	
881E06PRP-N006	4	11.1	N/A	
881E06PRP-N007	4	11.1	N/A	
881E06PRP-N008	4	29.8	N/A	
881E06PRP-N009	4	25.2	N/A	
881E06PRP-N010	4	20.5	N/A	
881E06PRP-N011	4	57.9	N/A	
881E06PRP-N012	4	29.8	N/A	
881E06PRP-N013	4	118.6	N/A	
881E06PRP-N014	4	6.5	N/A	
881E06PRP-N015	4	15.8	N/A	
881E06PRP-N016	4	39.2	N/A	
881E06PRP-N017	4	15.8	N/A	
881E06PRP-N018	4	20.5	N/A	
881E06QRP-N018	5	36.7	N/A	
881E06PRP-N019	4	11.1	N/A	
881E06PRP-N020	4	34.5	N/A	
881E06PRP-N021	4	20.5	N/A	
881E06PRP-N022	4	20.5	N/A	
881E06PRP-N023	4	29.8	N/A	
881E06PRP-N024	4	39.2	N/A	
881E06PRP-N025	4	71.9	N/A	
881E06PRP-N026	4	20.5	N/A	

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Survey Area: E

Survey Unit: 881E06

Building: 881

Description: Building 881, Management Unit E, Rooms 115A-F Floor

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E06PRP-N027	4	29.8	N/A	
881E06PRP-N028	4	57.9	N/A	
881E06PRP-N029	4	48.5	N/A	
881E06PRP-N030	4	34.5	N/A	
881E06PRP-N031	4	-12.2	N/A	
881E06PRP-N032	4	67.2	N/A	
881E06PRP-N033	4	34.5	N/A	
881E06PRP-N034	4	29.8	N/A	
881E06PRP-N035	4	20.5	N/A	
881E06PRP-N036	4	104.6	N/A	
881E06PRP-N037	4	1.8	N/A	
881E06PRP-N038	4	-16.9	N/A	
881E06PRP-N039	4	1.8	N/A	
881E06PRP-N040	4	85.9	N/A	
881E06PRP-N041	4	62.5	N/A	
881E06PRP-N042	4	39.2	N/A	
881E06PRP-N043	4	48.5	N/A	
881E06PRP-N044	4	6.5	N/A	
881E06PRP-N045	4	11.1	N/A	
881E06PRP-N046	4	6.5	N/A	
881E06PRP-N047	4	6.5	N/A	
881E06PRP-N048	4	43.9	N/A	
881E06PRP-N049	4	53.2	N/A	
881E06QRP-N049	5	36.7	N/A	
881E06PRP-N050	4	20.5	N/A	
881E06PRP-N051	4	-2.9	N/A	
881E06PRP-N052	4	76.6	N/A	

182

Survey Area: E

Survey Unit: 881E06

Building: 881

Description: Building 881, Management Unit E, Rooms 115A-F Floor

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E06PRP-N053	4	39.2	N/A	
881E06QRP-N053	5	23.0	N/A	
881E06PRP-N054	4	15.8	N/A	
881E06PRP-N055	4	25.2	N/A	
881E06PRP-N056	4	57.9	N/A	
881E06PRP-N057	4	15.8	N/A	
881E06PRP-N058	4	29.8	N/A	
881E06PRP-N059	4	15.8	N/A	

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E06PBP-N060	4	14.0	N/A	

Comments:

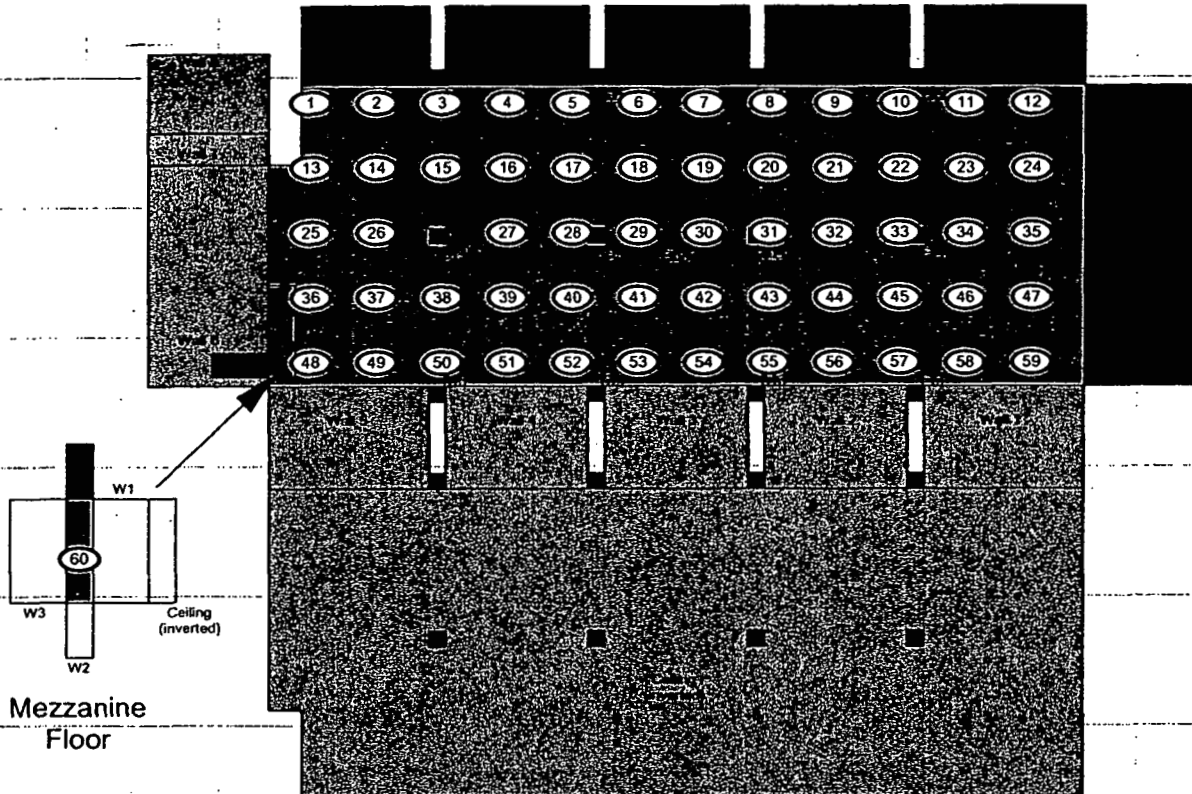
183

PRE-DEMOLITION SURVEY FOR B881

Survey Area: E Survey Unit: 881E06 Classification: 1
 Building: 881
 Survey Unit Description: Building 881, Management Unit E, Rooms 115A - 115F,
 Floor
 Total Area: 365 sq. m. Total Floor Area: 365 sq. m.
 Grid Spacing for Survey Points: 2.5 m. X 2.5 m.

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Room 115



STARTING POINT
FOR SQUARE
SAMPLING GRID
(X11, Y9)

Scan Area

<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> ○ Smear & TSA Location ◇ Smear, TSA & Sample Location ■ Open/Inaccessible Area □ Area in Another Survey Unit 	<p>Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p> <p>Scan Survey Information Survey Instrument ID #(s) & RCT ID #(s): 1, 2, 3</p>	<p>N</p> <p>0 FEET 30</p> <p>0 METERS 10</p> <p>1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p>U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GIS Dept. 303-966-7707 Prepared for:</p> <p>CH2MHILL Communications Group</p> <p>KAISER HILL</p> <p>MAP ID: 03-0568/881E06-SC June 04, 2004</p>
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Survey Area: E

Survey Unit: 881E07

Building: 881

Description: Building 881, Management Unit E, Rooms 115A-F, Walls and Ceiling

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr QC Required: 2

Nbr Random Measurements Performed: 16

Nbr Biased Measurements Performed: 2

Nbr QC Performed: 2

Alpha

Maximum: 36.2 dpm/100cm²

Minimum: -24.5 dpm/100cm²

Mean: 9.6 dpm/100cm²

Standard Deviation: 18.2

QC Maximum: 38.9 dpm/100cm²

QC Minimum: 29.8 dpm/100cm²

QC Mean: 34.4 dpm/100cm²

Uranium DCGLw: 5,000.0 dpm/100cm²

Uranium DCGLMC: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 16

Nbr Biased Measurements Performed: 2

Alpha

Maximum: 1.8 dpm/100cm²

Minimum: -1.2 dpm/100cm²

Mean: -0.4 dpm/100cm²

Standard Deviation: 1.4

Uranium DCGLw: 1,000.0

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

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Survey Area: E

Survey Unit: 881E07

Building: 881

Description: Building 881, Management Unit E, Rooms 115A-F, Walls and Ceiling

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	903346	06/08/04	Electra	2394	DP-6	08/19/04	0.214	NA	93.0	NA	T/S
2	903346	06/08/04	SAC-4	830	NA	10/30/04	0.330	NA	16.0	NA	R
3	702575	06/08/04	Electra	681	DP-8	06/29/04	0.151	NA	93.0	NA	S
4	712193	06/08/04	Electra	663	DP-6	09/18/04	0.218	NA	93.0	NA	Q/S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: E

Survey Unit: 881E07

Building: 881

Description: Building 881, Management Unit E, Rooms 115A-F, Walls and Ceiling

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E07PRP-N001	2	-1.2	N/A	
881E07PRP-N002	2	-1.2	N/A	
881E07PRP-N003	2	-1.2	N/A	
881E07PRP-N004	2	1.8	N/A	
881E07PRP-N005	2	-1.2	N/A	
881E07PRP-N006	2	-1.2	N/A	
881E07PRP-N007	2	1.8	N/A	
881E07PRP-N008	2	-1.2	N/A	
881E07PRP-N009	2	-1.2	N/A	
881E07PRP-N010	2	-1.2	N/A	
881E07PRP-N011	2	-1.2	N/A	
881E07PRP-N012	2	1.8	N/A	
881E07PRP-N013	2	-1.2	N/A	
881E07PRP-N014	2	-1.2	N/A	
881E07PRP-N015	2	-1.2	N/A	
881E07PRP-N016	2	1.8	N/A	

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Survey Area: E

Survey Unit: 881E07

Building: 881

Description: Building 881, Management Unit E, Rooms 115A-F, Walls and Ceiling

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E07PBP-N017	2	1.8	N/A	
881E07PBP-N018	2	-1.2	N/A	

Comments:

28

Survey Area: E**Survey Unit:** 881E07**Building:** 881**Description:** Building 881; Management Unit E; Rooms 115A-F; Walls and Ceiling**Random/QC Total Surface Activity Data Sheet**

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E07PRP-N001	1	-5.8	N/A	
881E07PRP-N002	1	26.9	N/A	
881E07PRP-N003	1	3.5	N/A	
881E07PRP-N004	1	12.9	N/A	
881E07QRP-N004	4	29.8	N/A	
881E07PRP-N005	1	31.6	N/A	
881E07PRP-N006	1	22.2	N/A	
881E07PRP-N007	1	22.2	N/A	
881E07PRP-N008	1	22.2	N/A	
881E07PRP-N009	1	31.6	N/A	
881E07PRP-N010	1	36.2	N/A	
881E07PRP-N011	1	-10.5	N/A	
881E07PRP-N012	1	-5.8	N/A	
881E07PRP-N013	1	-1.1	N/A	
881E07PRP-N014	1	-10.5	N/A	
881E07PRP-N015	1	-24.5	N/A	
881E07PRP-N016	1	26.9	N/A	
881E07QRP-N016	4	38.9	N/A	

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Survey Area: E

Survey Unit: 881E07

Building: 881

Description: Building 881, Management Unit E, Rooms 115A-F, Walls and Ceiling.

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E07PBP-N017	1	-0.0	N/A	
881E07PBP-N018	1	-4.7	N/A	

Comments:

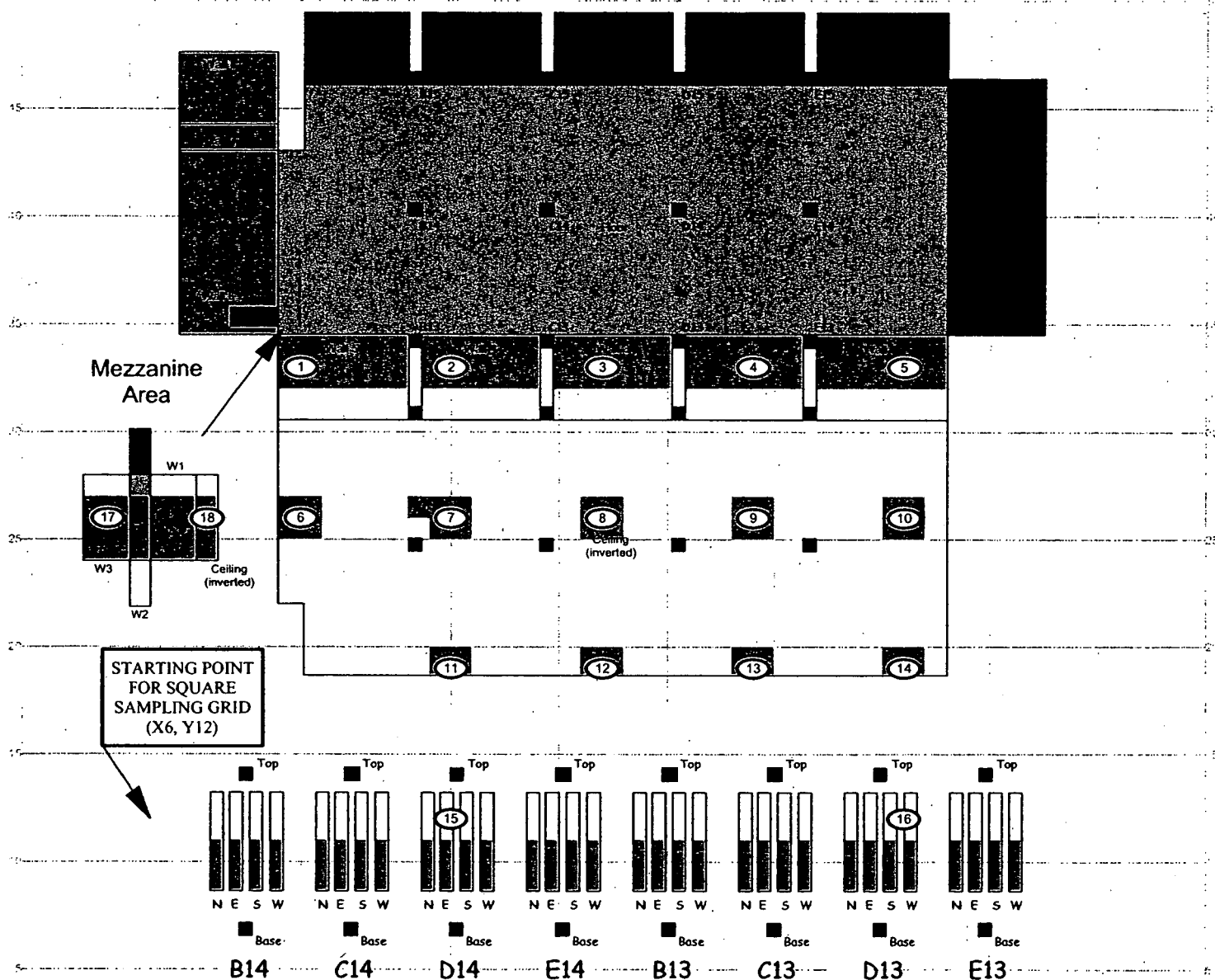
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PRE-DEMOLITION SURVEY FOR B881

Survey Area: E Survey Unit: 881E07 Classification: 2
 Building: 881
 Survey Unit Description: Building 881, Management Unit E, Rooms 115A - 115F, Walls & Ceiling
 Total Area: 720 sq. m. Total Floor Area: 365 sq. m.
 Grid Spacing for Survey Points: 7 m. X 7 m.

PAGE 1 OF 1

Room 115

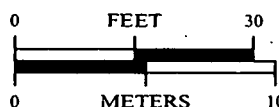


SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1, 3, 4



1 inch = 24 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site
 Prepared by: GIS Dept. 303-966-7707

CH2MHILL
 Communications Group

MAP ID: 03-0568/881E07-SC

Prepared for:

KAISER HILL
 SERVICES

June 04, 2004

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Survey Area: E

Survey Unit: 881E08

Building: 881

Description: Building 881, Management Unit E, Rooms 143 A-H, Floors

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 56

Nbr Biased Measurements Required: 0

Nbr QC Required: 3

Nbr Random Measurements Performed: 58

Nbr Biased Measurements Performed: 0

Nbr QC Performed: 3

Alpha

Maximum: 94.1 dpm/100cm²

Minimum: -20.8 dpm/100cm²

Mean: 30.3 dpm/100cm²

Standard Deviation: 26.6

QC Maximum: 70.3 dpm/100cm²

QC Minimum: 38.2 dpm/100cm²

QC Mean: 56.5 dpm/100cm²

Uranium DCGLw: 5,000.0 dpm/100cm²

Uranium DCGL_{EMC}: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 56

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 58

Nbr Biased Measurements Performed: 0

Alpha

Maximum: 8.8 dpm/100cm²

Minimum: -1.2 dpm/100cm²

Mean: 1.3 dpm/100cm²

Standard Deviation: 2.7

Uranium DCGLw: 1,000.0

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

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Survey Area: E

Survey Unit: 881E08

Building: 881

Description: Building 881, Management Unit E, Rooms 143 A-H, Floors

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	903346	06/08/04	SAC-4	830	NA	10/30/04	0.330	NA	16.0	NA	R
2	903346	06/08/04	SAC-4	961	NA	09/30/04	0.330	NA	16.0	NA	R
3	903346	06/08/04	Electra	663	DP-6	09/18/04	0.218	NA	93.0	NA	T
4	903346	06/08/04	Electra	290	DP-6	09/16/04	0.199	NA	93.0	NA	T
5	702575	06/08/04	Electra	681	DP-8	06/29/04	0.151	NA	93.0	NA	S
6	702575	06/08/04	Electra	632	DP-8	07/07/04	0.163	NA	93.0	NA	S
7	712193	06/08/04	Electra	675	DP-8	12/01/04	0.176	NA	93.0	NA	S
8	712193	06/09/04	Electra	663	DP-6	09/18/04	0.218	NA	93.0	NA	Q

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

193

Survey Area: E

Survey Unit: 881E08

Building: 881

Description: Building 881, Management Unit E, Rooms 143 A-H, Floors

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E08PRP-N001	1	-1.2	N/A	
881E08PRP-N002	2	-0.3	N/A	
881E08PRP-N003	1	-1.2	N/A	
881E08PRP-N004	2	-0.3	N/A	
881E08PRP-N005	1	-1.2	N/A	
881E08PRP-N006	2	2.7	N/A	
881E08PRP-N007	1	-1.2	N/A	
881E08PRP-N008	2	2.7	N/A	
881E08PRP-N009	1	-1.2	N/A	
881E08PRP-N010	2	-0.3	N/A	
881E08PRP-N011	1	1.8	N/A	
881E08PRP-N012	2	8.8	N/A	
881E08PRP-N013	1	4.9	N/A	
881E08PRP-N014	2	-0.3	N/A	
881E08PRP-N015	1	1.8	N/A	
881E08PRP-N016	2	-0.3	N/A	
881E08PRP-N017	1	-1.2	N/A	
881E08PRP-N018	2	2.7	N/A	
881E08PRP-N019	1	-1.2	N/A	
881E08PRP-N020	2	-0.3	N/A	
881E08PRP-N021	1	1.8	N/A	
881E08PRP-N022	2	5.8	N/A	
881E08PRP-N023	1	1.8	N/A	
881E08PRP-N024	2	-0.3	N/A	
881E08PRP-N025	1	4.9	N/A	
881E08PRP-N026	2	2.7	N/A	
881E08PRP-N027	1	-1.2	N/A	
881E08PRP-N028	2	-0.3	N/A	
881E08PRP-N029	1	7.9	N/A	

Survey Area: E

Survey Unit: 881E08

Building: 881

Description: Building 881, Management Unit E, Rooms 143 A-H, Floors

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E08PRP-N030	2	-0.3	N/A	
881E08PRP-N031	1	1.8	N/A	
881E08PRP-N032	2	5.8	N/A	
881E08PRP-N033	1	4.9	N/A	
881E08PRP-N034	2	5.8	N/A	
881E08PRP-N035	1	-1.2	N/A	
881E08PRP-N036	2	-0.3	N/A	
881E08PRP-N037	1	-1.2	N/A	
881E08PRP-N038	2	-0.3	N/A	
881E08PRP-N039	1	-1.2	N/A	
881E08PRP-N040	2	-0.3	N/A	
881E08PRP-N041	1	1.8	N/A	
881E08PRP-N042	2	-0.3	N/A	
881E08PRP-N043	1	1.8	N/A	
881E08PRP-N044	2	-0.3	N/A	
881E08PRP-N045	1	-1.2	N/A	
881E08PRP-N046	2	-0.3	N/A	
881E08PRP-N047	1	1.8	N/A	
881E08PRP-N048	2	5.8	N/A	
881E08PRP-N049	1	-1.2	N/A	
881E08PRP-N050	2	2.7	N/A	
881E08PRP-N051	1	1.8	N/A	
881E08PRP-N052	2	5.8	N/A	
881E08PRP-N053	1	-1.2	N/A	
881E08PRP-N054	2	2.7	N/A	
881E08PRP-N055	1	-1.2	N/A	
881E08PRP-N056	2	-0.3	N/A	
881E08PRP-N057	1	4.9	N/A	
881E08PRP-N058	2	-0.3	N/A	

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Survey Area: E	Survey Unit: 881E08	Building: 881
Description: Building 881, Management Unit E, Rooms 143 A-H, Floors		
Comments:		

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Survey Area: E

Survey Unit: 881E08

Building: 881

Description: Building 881, Management Unit E, Rooms 143/A-H, Floors

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E08PRP-N001	3	29.6	N/A	
881E08PRP-N002	3	29.6	N/A	
881E08PRP-N003	3	52.6	N/A	
881E08PRP-N004	3	-2.5	N/A	
881E08PRP-N005	3	52.6	N/A	
881E08PRP-N006	3	-2.5	N/A	
881E08PRP-N007	3	-7.1	N/A	
881E08PRP-N008	3	29.6	N/A	
881E08PRP-N009	3	-2.5	N/A	
881E08PRP-N010	3	48.0	N/A	
881E08QRP-N010	8	38.2	N/A	
881E08PRP-N011	3	11.3	N/A	
881E08PRP-N012	3	66.3	N/A	
881E08PRP-N013	4	84.1	N/A	
881E08PRP-N014	4	3.7	N/A	
881E08PRP-N015	4	64.0	N/A	
881E08PRP-N016	4	58.9	N/A	
881E08PRP-N017	4	23.8	N/A	
881E08PRP-N018	4	38.8	N/A	
881E08PRP-N019	4	23.8	N/A	
881E08PRP-N020	4	53.9	N/A	
881E08PRP-N021	4	38.8	N/A	
881E08PRP-N022	4	94.1	N/A	
881E08PRP-N023	4	48.9	N/A	
881E08PRP-N024	4	-6.4	N/A	
881E08PRP-N025	3	25.0	N/A	
881E08PRP-N026	3	48.0	N/A	

Survey Area: E

Survey Unit: 881E08

Building: 881

Description: Building 881, Management Unit E, Rooms 143 A-H, Floors

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E08PRP-N027	3	43.4	N/A	
881E08PRP-N028	3	25.0	N/A	
881E08PRP-N029	3	80.1	N/A	
881E08PRP-N030	3	20.5	N/A	
881E08PRP-N031	3	43.4	N/A	
881E08PRP-N032	3	84.7	N/A	
881E08QRP-N032	8	70.3	N/A	
881E08PRP-N033	3	15.9	N/A	
881E08PRP-N034	3	66.3	N/A	
881E08PRP-N035	3	61.7	N/A	
881E08PRP-N036	3	15.9	N/A	
881E08PRP-N037	3	2.1	N/A	
881E08PRP-N038	3	25.0	N/A	
881E08PRP-N039	3	2.1	N/A	
881E08PRP-N040	3	2.1	N/A	
881E08PRP-N041	3	-20.8	N/A	
881E08PRP-N042	3	34.2	N/A	
881E08PRP-N043	3	-2.5	N/A	
881E08PRP-N044	3	38.8	N/A	
881E08PRP-N045	3	57.2	N/A	
881E08PRP-N046	3	20.5	N/A	
881E08PRP-N047	4	38.8	N/A	
881E08PRP-N048	4	23.8	N/A	
881E08PRP-N049	4	18.7	N/A	
881E08PRP-N050	4	23.8	N/A	
881E08PRP-N051	4	8.7	N/A	
881E08PRP-N052	4	-1.4	N/A	

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Survey Area: E**Survey Unit:** 881E08**Building:** 881**Description:** Building 881; Management Unit E, Rooms 143 A-H, Floors

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E08PRP-N053	4	8.7	N/A	
881E08PRP-N054	4	38.8	N/A	
881E08QRP-N054	8	61.1	N/A	
881E08PRP-N055	4	23.8	N/A	
881E08PRP-N056	4	-11.4	N/A	
881E08PRP-N057	4	18.7	N/A	
881E08PRP-N058	4	48.9	N/A	

Comments:

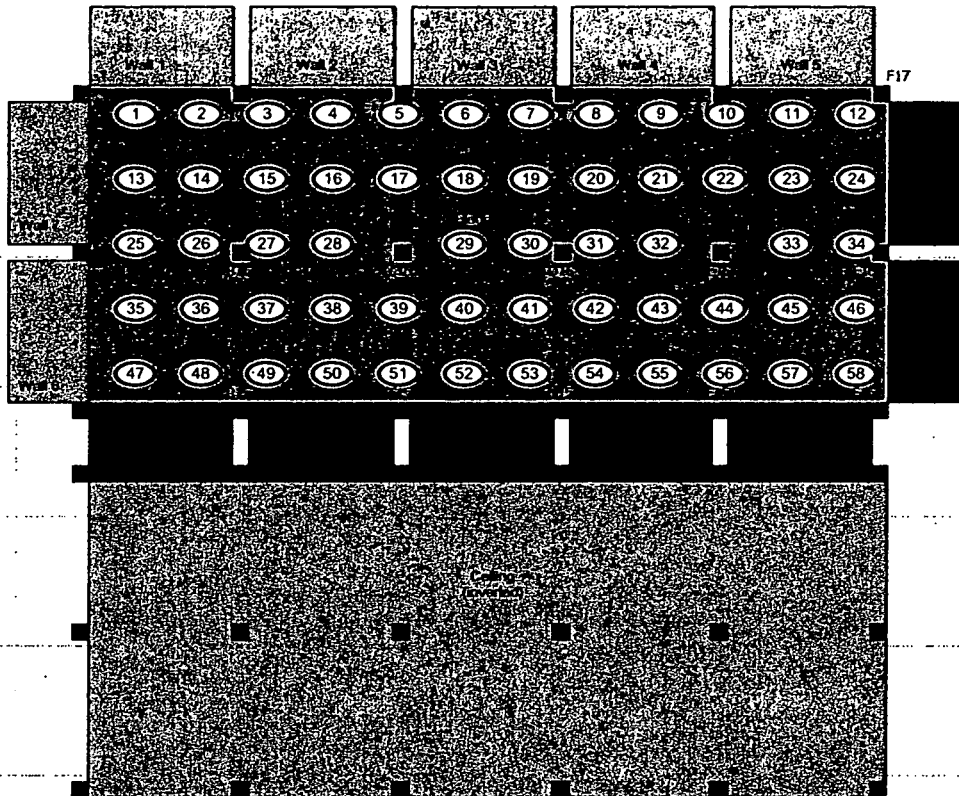
199

PRE-DEMOLITION SURVEY FOR B881

Survey Area: E Survey Unit: 881E08 Classification: 1
 Building: 881
 Survey Unit Description: Building 881, Management Unit E, Rooms 143A- 143H, Floors
 Total Area: 372 sq. m. Total Floor Area: 372 sq. m.
 Grid Spacing for Survey Points: 2.5 m. X 2.5 m.

PAGE 1 OF 1

Room 143



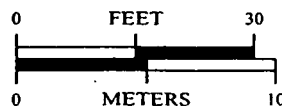
STARTING POINT
FOR SQUARE
SAMPLING GRID
(X2, Y8)

Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- ◆ Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 5, 6, 7

1 inch = 24 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Communications Group



MAP ID: 03-0568/881E08-SC

June 04, 2004

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200

Survey Area: E**Survey Unit:** 881E09**Building:** 881**Description:** Building 881, Management Unit E, Room 143A-H, Walls and Ceiling

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr QC Required: 2

Nbr Random Measurements Performed: 20

Nbr Biased Measurements Performed: 0

Nbr QC Performed: 2

Alpha

Maximum: 86.4 dpm/100cm²Minimum: -38.0 dpm/100cm²Mean: 12.5 dpm/100cm²

Standard Deviation: 35.5

QC Maximum: 36.7 dpm/100cm²QC Minimum: -0.0 dpm/100cm²QC Mean: 18.3 dpm/100cm²Uranium DCGLw: 5,000.0 dpm/100cm²Uranium DCGL_{EMC}: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 20

Nbr Biased Measurements Performed: 0

Alpha

Maximum: 4.9 dpm/100cm²Minimum: -1.2 dpm/100cm²Mean: 0.0 dpm/100cm²

Standard Deviation: 1.7

Uranium DCGLw: 1,000.0

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: E

Survey Unit: 881E09

Building: 881

Description: Building 881, Management Unit E, Room 143A-H, Walls and Ceiling

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	903346	06/08/04	SAC-4	830	NA	10/30/04	0.330	NA	16.0	NA	R
2	903346	06/08/04	SAC-4	961	NA	09/30/04	0.330	NA	16.0	NA	R
3	712193	06/08/04	Electra	675	DP-8	12/01/04	0.176	NA	93.0	NA	S
4	702575	06/08/04	Electra	632	DP-8	07/07/04	0.163	NA	93.0	NA	S
5	711447	06/08/04	Electra	681	DP-8	06/29/04	0.157	NA	93.0	NA	S
6	702567	06/08/04	Electra	1518	DP-6	12/02/04	0.217	NA	93.0	NA	T/S
7	712193	06/08/04	Electra	663	DP-6	09/18/04	0.218	NA	93.0	NA	Q/S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

202

Survey Area: E

Survey Unit: 881E09

Building: 881

Description: Building 881, Management Unit E, Room 143A-H, Walls and Ceiling

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E09PRP-N001	1	-1.2	N/A	
881E09PRP-N002	2	-0.3	N/A	
881E09PRP-N003	1	-1.2	N/A	
881E09PRP-N004	2	-0.3	N/A	
881E09PRP-N005	1	1.8	N/A	
881E09PRP-N006	2	-0.3	N/A	
881E09PRP-N007	1	-1.2	N/A	
881E09PRP-N008	2	-0.3	N/A	
881E09PRP-N009	1	-1.2	N/A	
881E09PRP-N010	2	-0.3	N/A	
881E09PRP-N011	1	4.9	N/A	
881E09PRP-N012	2	-0.3	N/A	
881E09PRP-N013	1	-1.2	N/A	
881E09PRP-N014	2	-0.3	N/A	
881E09PRP-N015	1	-1.2	N/A	
881E09PRP-N016	2	2.7	N/A	
881E09PRP-N017	1	-1.2	N/A	
881E09PRP-N018	2	2.7	N/A	
881E09PRP-N019	1	-1.2	N/A	
881E09PRP-N020	2	-0.3	N/A	

Comments:

Survey Area: E

Survey Unit: 881E09

Building: 881

Description: Building 881, Management Unit E, Room 143A-H, Walls and Ceiling

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E09PRP-N001	6	-1.1	N/A	
881E09PRP-N002	6	21.9	N/A	
881E09QRP-N002	7	-0.0	N/A	
881E09PRP-N003	6	12.7	N/A	
881E09PRP-N004	6	12.7	N/A	
881E09PRP-N005	6	-5.7	N/A	
881E09PRP-N006	6	-10.3	N/A	
881E09PRP-N007	6	-14.9	N/A	
881E09PRP-N008	6	-1.1	N/A	
881E09PRP-N009	6	8.1	N/A	
881E09PRP-N010	6	-38.0	N/A	
881E09PRP-N011	6	3.5	N/A	
881E09PRP-N012	6	-19.5	N/A	
881E09PRP-N013	6	-19.5	N/A	
881E09PRP-N014	6	-10.3	N/A	
881E09PRP-N015	6	-5.7	N/A	
881E09PRP-N016	6	77.2	N/A	
881E09QRP-N016	7	36.7	N/A	
881E09PRP-N017	6	86.4	N/A	
881E09PRP-N018	6	12.7	N/A	
881E09PRP-N019	6	72.6	N/A	
881E09PRP-N020	6	68.0	N/A	

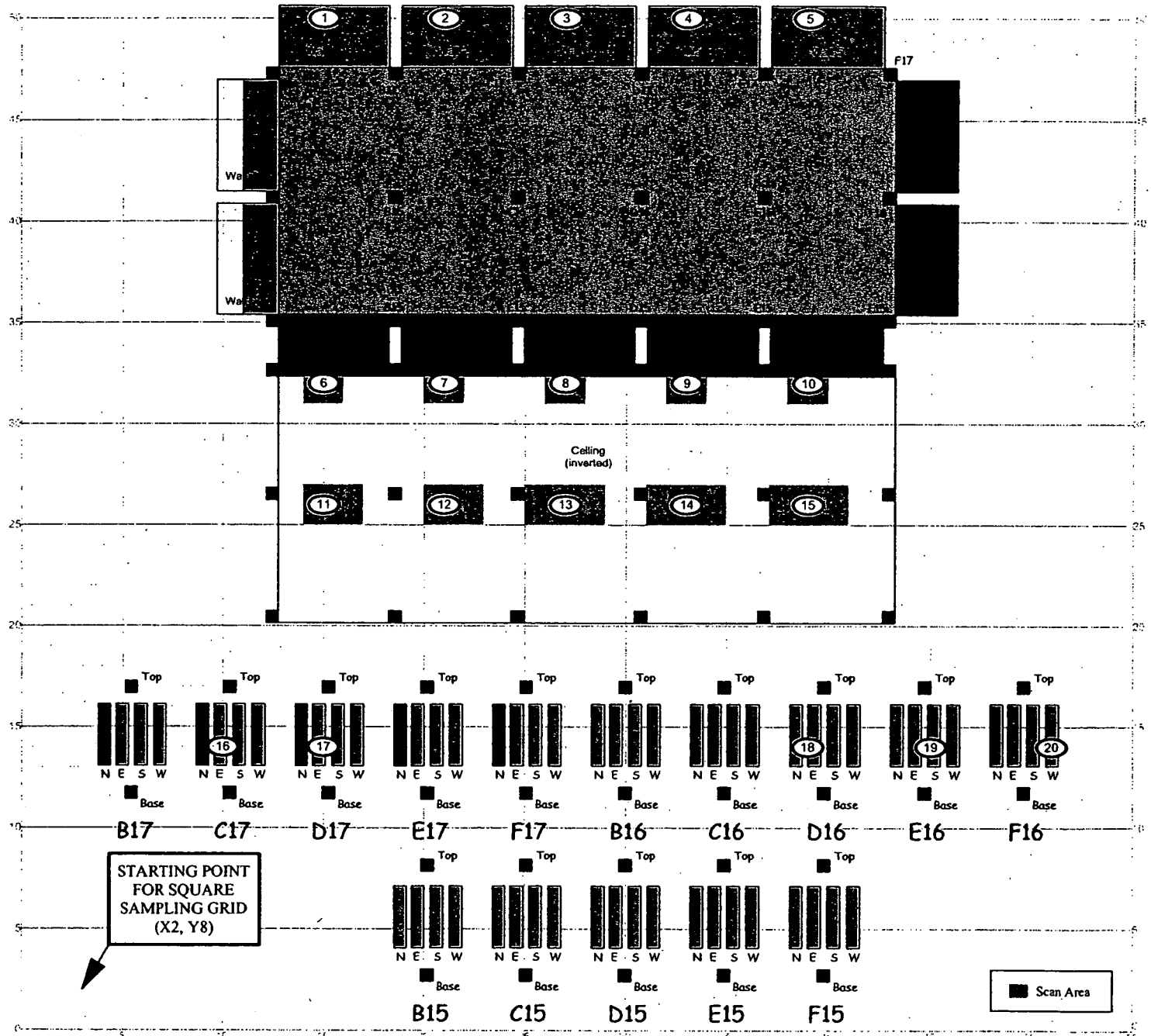
Comments:

PRE-DEMOLITION SURVEY FOR B881

Survey Area: E Survey Unit: 881E09 Classification: 2
 Building: 881
 Survey Unit Description: Building 881, Management Unit E, Rooms 143A- 143H,
 Walls & Ceiling
 Total Area: 611 sq. m. Total Floor Area: 372 sq. m.
 Grid Spacing for Survey Points: 6 m. X 6 m.

PAGE 1 OF 1

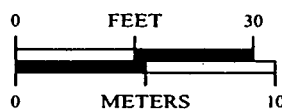
Room 143



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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1 inch = 24 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 3-7

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Communications Group



MAP ID: 03-0568/881E09-SC

June 04, 2004

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Survey Area: E**Survey Unit:** 881E10**Building:** 881**Description:** Building 881 Management Unit E, Room 199 and Vent, All Surfaces

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr QC Required: 2

Nbr Random Measurements Performed: 20

Nbr Biased Measurements Performed: 0

Nbr QC Performed: 2

Alpha

Maximum: 234.1 dpm/100cm²Minimum: -14.2 dpm/100cm²Mean: 100.2 dpm/100cm²

Standard Deviation: 61.3

QC Maximum: 140.1 dpm/100cm²QC Minimum: 86.9 dpm/100cm²QC Mean: 113.5 dpm/100cm²Uranium DCGLw: 5,000.0 dpm/100cm²Uranium DCGL_{EMC}: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 20

Nbr Biased Measurements Performed: 0

Alpha

Maximum: 5.8 dpm/100cm²Minimum: -0.6 dpm/100cm²Mean: 2.3 dpm/100cm²

Standard Deviation: 2.2

Uranium DCGLw: 1,000.0

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

204

Survey Area: E

Survey Unit: 881E10

Building: 881

Description: Building 881, Management Unit E, Room 199 and Vent, All Surfaces

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	711447	06/11/04	Electra	632	DP-8	07/07/04	0.163	NA	93.0	NA	S
2	903346	06/11/04	Electra	675	DP-8	12/01/04	0.176	NA	93.0	NA	S
3	712193	06/11/04	Electra	1241	DP-8	10/06/04	0.193	NA	93.0	NA	S
4	702567	06/12/04	Electra	663	DP-6	09/18/04	0.218	NA	93.0	NA	T/S
5	702567	06/12/04	Electra	667	DP-6	10/22/04	0.222	NA	93.0	NA	T/S
6	903346	06/12/04	Electra	1681	DP-6	10/07/04	0.212	NA	93.0	NA	S
7	702567	06/12/04	SAC-4	830	NA	10/30/04	0.330	NA	16.0	NA	R
8	702567	06/12/04	SAC-4	961	NA	09/30/04	0.330	NA	16.0	NA	R
9	712193	06/12/04	Electra	1417	DP-6	12/03/04	0.207	NA	93.0	NA	Q

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: E

Survey Unit: 881E10

Building: 881

Description: Building 881, Management Unit E, Room 199 and Vent, All Surfaces

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E10PRP-N001	7	2.4	N/A	
881E10PRP-N002	8	2.7	N/A	
881E10PRP-N003	7	2.4	N/A	
881E10PRP-N004	8	-0.3	N/A	
881E10PRP-N005	7	-0.6	N/A	
881E10PRP-N006	8	-0.3	N/A	
881E10PRP-N007	7	-0.6	N/A	
881E10PRP-N008	8	-0.3	N/A	
881E10PRP-N009	7	5.5	N/A	
881E10PRP-N010	8	2.7	N/A	
881E10PRP-N011	7	2.4	N/A	
881E10PRP-N012	8	2.7	N/A	
881E10PRP-N013	7	5.5	N/A	
881E10PRP-N014	8	2.7	N/A	
881E10PRP-N015	7	2.4	N/A	
881E10PRP-N016	8	5.8	N/A	
881E10PRP-N017	7	2.4	N/A	
881E10PRP-N018	8	5.8	N/A	
881E10PRP-N019	7	2.4	N/A	
881E10PRP-N020	8	-0.3	N/A	

Comments:

208

Survey Area: E

Survey Unit: 881E10

Building: 881

Description: Building 881, Management Unit E, Room 199 and Vent, All Surfaces

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881E10PRP-N001	4	124.0	N/A	
881E10PRP-N002	5	75.9	N/A	
881E10PRP-N003	4	82.7	N/A	
881E10PRP-N004	5	44.4	N/A	
881E10PRP-N005	4	128.6	N/A	
881E10PRP-N006	5	89.4	N/A	
881E10PRP-N007	4	18.5	N/A	
881E10PRP-N008	5	53.4	N/A	
881E10PRP-N009	4	110.3	N/A	
881E10PRP-N010	5	44.4	N/A	
881E10PRP-N011	4	137.8	N/A	
881E10QRP-N011	9	140.1	N/A	
881E10PRP-N012	5	143.5	N/A	
881E10QRP-N012	9	86.9	N/A	
881E10PRP-N013	4	128.6	N/A	
881E10PRP-N014	5	143.5	N/A	
881E10PRP-N015	4	101.1	N/A	
881E10PRP-N016	5	-14.2	N/A	
881E10PRP-N017	4	234.1	N/A	
881E10PRP-N018	5	179.5	N/A	
881E10PRP-N019	4	160.7	N/A	
881E10PRP-N020	5	17.4	N/A	

Comments:

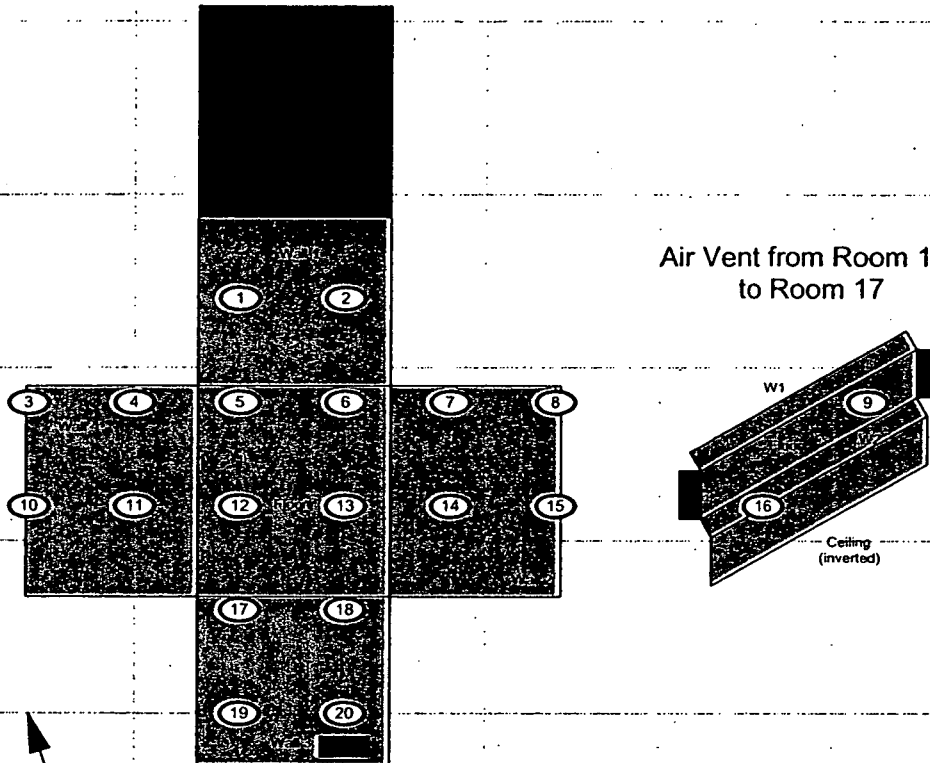
209

PRE-DEMOLITION SURVEY FOR B881

Survey Area: E Survey Unit: 881E10 Classification: 1
 Building: 881
 Survey Unit Description: Building 881 Management Unit E, Room 199 & Vent, All Surfaces
 Total Area: 174 sq. m. Total Floor Area: 42 sq. m.
 Grid Spacing for Survey Points: 3 m. X 3 m.

PAGE 1 OF 1

Room 199



STARTING POINT
FOR SQUARE
SAMPLING GRID
(X7, Y15)

Scan Area

SURVEY MAP LEGEND <ul style="list-style-type: none"> Smear & TSA Location Smear, TSA & Sample Location Open/Inaccessible Area Area in Another Survey Unit 	<p>Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p> <p>Scan Survey Information Survey Instrument ID #(s) & RCT ID #(s): 1-6</p>	<p>N</p> <p>FEET 0 25</p> <p>METERS 0 8</p> <p>1 inch = 18 feet 1 grid sq. = 1 sq. m.</p>	<p>U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GIS Dept. 303-966-7707 Prepared for:</p> <p>CH2MHILL Communications Group</p> <p>KAISER HILL</p> <p>MAP ID: 03-0568/881E10-SC June 04, 2004</p>
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Survey Area: H

Survey Unit: 881H01

Building: 881

Description: Building 881, Management unit H, rooms 160, 169, 170, 171 Floor

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 77

Nbr Biased Measurements Required: 0

Nbr QC Required: 4

Nbr Random Measurements Performed: 78

Nbr Biased Measurements Performed: 0

Nbr QC Performed: 4

Alpha

Maximum: 478.8 dpm/100cm²

Minimum: -0.5 dpm/100cm²

Mean: 94.7 dpm/100cm²

Standard Deviation: 86.9

QC Maximum: 381.5 dpm/100cm²

QC Minimum: 206.2 dpm/100cm²

QC Mean: 265.4 dpm/100cm²

Uranium DCGLw: 5,000.0 dpm/100cm²

Uranium DCGL_{EMC}: 15,000.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 77

Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 78

Nbr Biased Measurements Performed: 0

Alpha

Maximum: 8.2 dpm/100cm²

Minimum: -0.9 dpm/100cm²

Mean: 1.1 dpm/100cm²

Standard Deviation: 2.5

Uranium DCGLw: 1,000.0

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: H	Survey Unit: 881H01	Building: 881
Description: Building 881 Management Unit H Rooms 160, 169, 170, 171 Floor		

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	712193	03/04/04	Electra	663	DP-8	06/04/04	0.147	NA	93.0	NA	T/S
2	711447	03/04/04	Electra	667	DP-8	06/10/04	0.168	NA	93.0	NA	T/S
3	711799	03/05/04	Electra	662	DP-6	03/15/04	0.217	NA	93.0	NA	T
4	711447	03/05/04	Electra	2404	DP-6	04/16/04	0.211	NA	93.0	NA	T
5	711799	03/11/04	Electra	1261	DP-6	08/24/04	0.210	NA	93.0	NA	T/S
6	712193	03/11/04	Electra	2404	DP-6	04/16/04	0.211	NA	93.0	NA	T/S
8	712193	04/01/04	Electra	667	DP-6	09/19/04	0.219	NA	93.0	NA	T
9	711447	04/01/04	Electra	3109	DP-6	06/08/04	0.211	NA	93.0	NA	T/Q
10	712193	04/01/04	SAC-4	1170	NA	08/24/04	0.330	NA	16.0	NA	R

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: H

Survey Unit: 881H01

Building: 881

Description: Building 881, Management unit H, rooms 160, 169, 170, 171 Floor:

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881H01PRP-N001	10	5.2	N/A	
881H01PRP-N002	10	-0.9	N/A	
881H01PRP-N003	10	-0.9	N/A	
881H01PRP-N004	10	-0.9	N/A	
881H01PRP-N005	10	2.1	N/A	
881H01PRP-N006	10	-0.9	N/A	
881H01PRP-N007	10	2.1	N/A	
881H01PRP-N008	10	-0.9	N/A	
881H01PRP-N009	10	-0.9	N/A	
881H01PRP-N010	10	5.2	N/A	
881H01PRP-N011	10	2.1	N/A	
881H01PRP-N012	10	2.1	N/A	
881H01PRP-N013	10	-0.9	N/A	
881H01PRP-N014	10	-0.9	N/A	
881H01PRP-N015	10	-0.9	N/A	
881H01PRP-N016	10	-0.9	N/A	
881H01PRP-N017	10	2.1	N/A	
881H01PRP-N018	10	2.1	N/A	
881H01PRP-N019	10	-0.9	N/A	
881H01PRP-N020	10	-0.9	N/A	
881H01PRP-N021	10	8.2	N/A	
881H01PRP-N022	10	-0.9	N/A	
881H01PRP-N023	10	2.1	N/A	
881H01PRP-N024	10	5.2	N/A	
881H01PRP-N025	10	-0.9	N/A	
881H01PRP-N026	10	2.1	N/A	
881H01PRP-N027	10	-0.9	N/A	
881H01PRP-N028	10	-0.9	N/A	
881H01PRP-N029	10	-0.9	N/A	

Survey Area: H

Survey Unit: 881H01

Building: 881

Description: Building 881; Management unit H; rooms 160, 169, 170, 171 Floor

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881H01PRP-N030	10	2.1	N/A	
881H01PRP-N031	10	5.2	N/A	
881H01PRP-N032	10	-0.9	N/A	
881H01PRP-N033	10	5.2	N/A	
881H01PRP-N034	10	2.1	N/A	
881H01PRP-N035	10	2.1	N/A	
881H01PRP-N036	10	2.1	N/A	
881H01PRP-N037	10	-0.9	N/A	
881H01PRP-N038	10	-0.9	N/A	
881H01PRP-N039	10	2.1	N/A	
881H01PRP-N040	10	-0.9	N/A	
881H01PRP-N041	10	-0.9	N/A	
881H01PRP-N042	10	-0.9	N/A	
881H01PRP-N043	10	2.1	N/A	
881H01PRP-N044	10	-0.9	N/A	
881H01PRP-N045	10	5.2	N/A	
881H01PRP-N046	10	-0.9	N/A	
881H01PRP-N047	10	-0.9	N/A	
881H01PRP-N048	10	8.2	N/A	
881H01PRP-N049	10	-0.9	N/A	
881H01PRP-N050	10	5.2	N/A	
881H01PRP-N051	10	2.1	N/A	
881H01PRP-N052	10	-0.9	N/A	
881H01PRP-N053	10	5.2	N/A	
881H01PRP-N054	10	-0.9	N/A	
881H01PRP-N055	10	2.1	N/A	
881H01PRP-N056	10	2.1	N/A	
881H01PRP-N057	10	-0.9	N/A	
881H01PRP-N058	10	2.1	N/A	

Survey Area: H

Survey Unit: 881H01

Building: 881

Description: Building 881, Management unit H, rooms 160, 169, 170, 171 Floor

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881H01PRP-N059	10	-0.9	N/A	
881H01PRP-N060	10	2.1	N/A	
881H01PRP-N061	10	-0.9	N/A	
881H01PRP-N062	10	5.2	N/A	
881H01PRP-N063	10	-0.9	N/A	
881H01PRP-N064	10	-0.9	N/A	
881H01PRP-N065	10	-0.9	N/A	
881H01PRP-N066	10	2.1	N/A	
881H01PRP-N067	10	2.1	N/A	
881H01PRP-N068	10	5.2	N/A	
881H01PRP-N069	10	-0.9	N/A	
881H01PRP-N070	10	-0.9	N/A	
881H01PRP-N071	10	5.2	N/A	
881H01PRP-N072	10	-0.9	N/A	
881H01PRP-N073	10	2.1	N/A	
881H01PRP-N074	10	-0.9	N/A	
881H01PRP-N075	10	2.1	N/A	
881H01PRP-N076	10	-0.9	N/A	
881H01PRP-N077	10	-0.9	N/A	
881H01PRP-N078	10	2.1	N/A	

Comments:

Survey Area: H

Survey Unit: 881H01

Building: 881

Description: Building 881, Management unit H, rooms 160, 169, 170, 171 Floor

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881H01PRP-N001	3	8.7	N/A	
881H01PRP-N002	4	104.6	N/A	
881H01PRP-N003	3	27.2	N/A	
881H01PRP-N004	8	76.9	N/A	
881H01PRP-N005	8	154.5	N/A	
881H01PRP-N006	8	127.1	N/A	
881H01PRP-N007	8	218.5	N/A	
881H01PRP-N008	4	76.1	N/A	
881H01PRP-N009	3	82.5	N/A	
881H01PRP-N010	4	85.6	N/A	
881H01PRP-N011	3	27.2	N/A	
881H01PRP-N012	8	373.7	N/A	
881H01QRP-N012	9	381.5	N/A	
881H01PRP-N013	8	181.9	N/A	
881H01PRP-N014	8	181.9	N/A	
881H01PRP-N015	8	150.0	N/A	
881H01PRP-N016	4	24.0	N/A	
881H01PRP-N017	3	54.8	N/A	
881H01PRP-N018	4	76.1	N/A	
881H01PRP-N019	3	13.4	N/A	
881H01PRP-N020	8	305.2	N/A	
881H01QRP-N020	9	258.3	N/A	
881H01PRP-N021	8	58.6	N/A	
881H01PRP-N022	8	95.2	N/A	
881H01PRP-N023	8	118.0	N/A	
881H01PRP-N024	4	47.7	N/A	
881H01PRP-N025	3	27.2	N/A	

Survey Area: H

Survey Unit: 881H01

Building: 881

Description: Building 881, Management unit H, rooms 160, 169, 170, 171 Floor

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881H01PRP-N026	4	19.3	N/A	
881H01PRP-N027	3	124.0	N/A	
881H01PRP-N028	8	204.8	N/A	
881H01PRP-N029	8	72.3	N/A	
881H01PRP-N030	8	127.1	N/A	
881H01PRP-N031	8	113.4	N/A	
881H01PRP-N032	4	57.2	N/A	
881H01PRP-N033	3	82.5	N/A	
881H01PRP-N034	4	57.2	N/A	
881H01PRP-N035	3	41.0	N/A	
881H01PRP-N036	4	123.5	N/A	
881H01PRP-N037	3	114.7	N/A	
881H01PRP-N038	4	38.2	N/A	
881H01PRP-N039	3	68.7	N/A	
881H01PRP-N040	4	170.9	N/A	
881H01PRP-N041	3	170.0	N/A	
881H01PRP-N042	4	38.2	N/A	
881H01PRP-N043	3	-0.5	N/A	
881H01PRP-N044	4	199.4	N/A	
881H01QRP-N044	9	206.2	N/A	
881H01PRP-N045	3	142.4	N/A	
881H01PRP-N046	8	44.9	N/A	
881H01PRP-N047	4	85.6	N/A	
881H01PRP-N048	3	478.8	N/A	
881H01PRP-N049	4	161.5	N/A	
881H01PRP-N050	8	58.6	N/A	
881H01PRP-N051	3	50.2	N/A	

Survey Area: H

Survey Unit: 881H01

Building: 881

Description: Building 881, Management unit H, rooms 160, 169, 170, 171, Floor

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881H01PRP-N052	4	180.4	N/A	
881H01PRP-N053	3	276.0	N/A	
881H01PRP-N054	4	104.6	N/A	
881H01PRP-N055	3	193.1	N/A	
881H01PRP-N056	4	246.8	N/A	
881H01QRP-N056	9	215.6	N/A	
881H01PRP-N057	8	40.4	N/A	
881H01PRP-N058	8	44.9	N/A	
881H01PRP-N059	8	49.5	N/A	
881H01PRP-N060	8	22.1	N/A	
881H01PRP-N061	8	31.2	N/A	
881H01PRP-N062	8	35.8	N/A	
881H01PRP-N063	8	44.9	N/A	
881H01PRP-N064	8	22.1	N/A	
881H01PRP-N065	8	54.1	N/A	
881H01PRP-N066	8	26.7	N/A	
881H01PRP-N067	8	17.5	N/A	
881H01PRP-N068	8	44.9	N/A	
881H01PRP-N069	8	136.3	N/A	
881H01PRP-N070	8	31.2	N/A	
881H01PRP-N071	8	40.4	N/A	
881H01PRP-N072	8	17.5	N/A	
881H01PRP-N073	8	35.8	N/A	
881H01PRP-N074	8	31.2	N/A	
881H01PRP-N075	8	31.2	N/A	
881H01PRP-N076	8	17.5	N/A	
881H01PRP-N077	8	35.8	N/A	

Survey Area: H**Survey Unit:** 881H01**Building:** 881**Description:** Building 881, Management unit H, rooms 160, 169, 170, 171 Floor

Random/QC Total Surface Activity Data Sheet

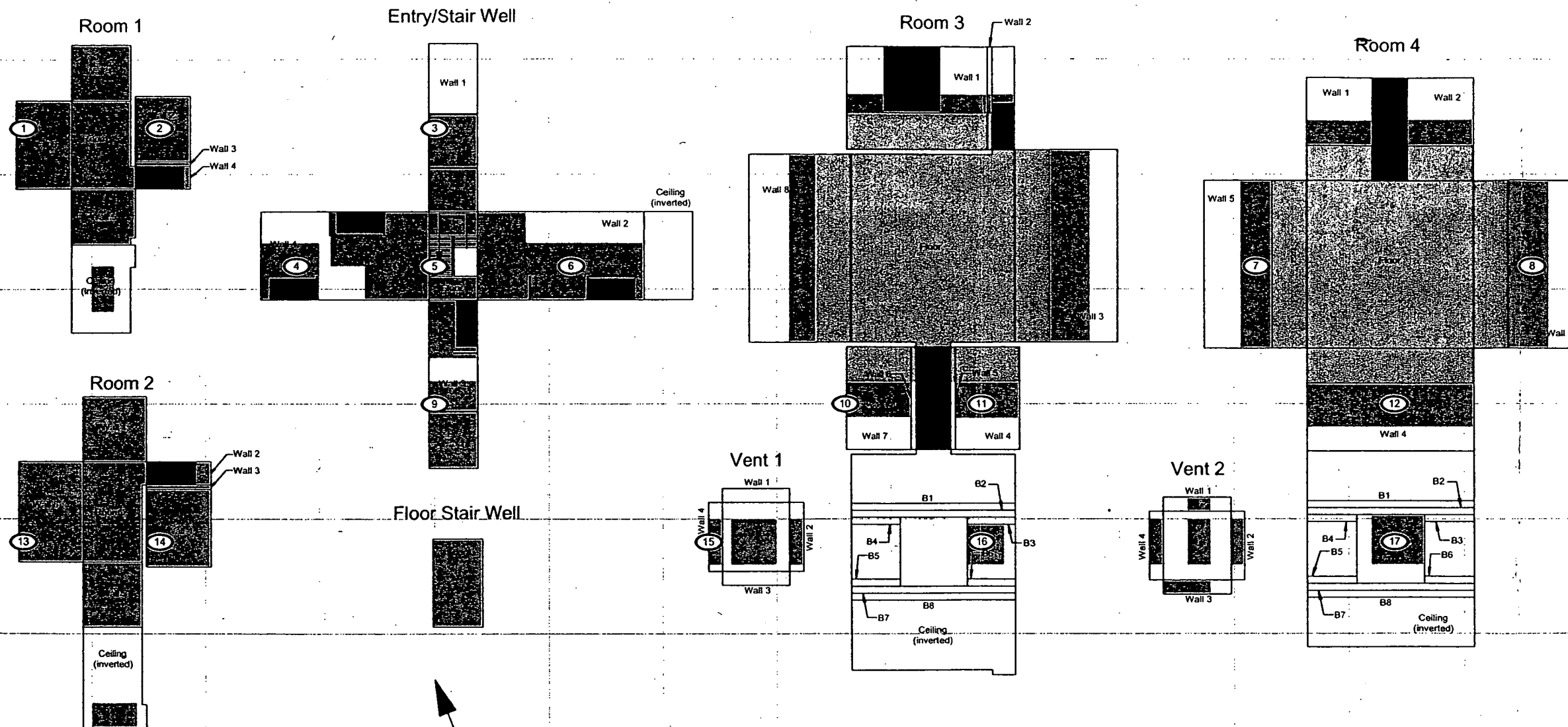
Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
881H01PRP-N078	8	35.8	N/A	

Comments: Scans performed at 4"/second at shaded areas indicated on map. All detected alpha count rates verified to be less than 5,000 dpm/100cm².

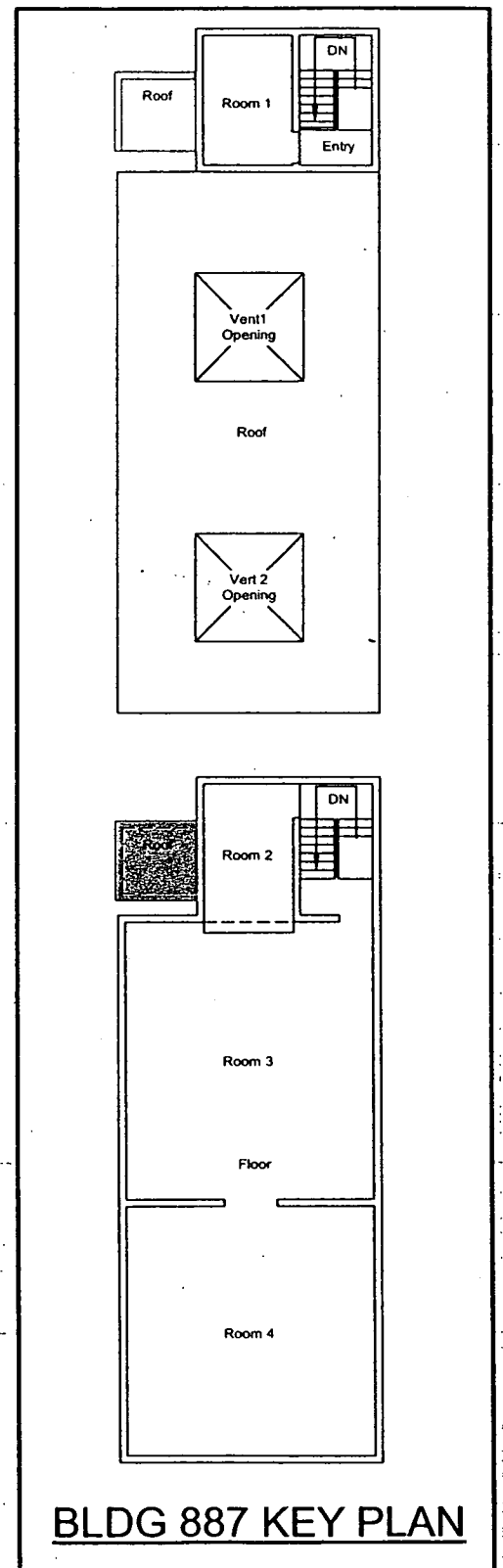
PRE-DEMOLITION SURVEY FOR B881 CLUSTER

Survey Area: 0 Survey Unit: 887002 Classification: 2
 Building: 887
 Survey Unit Description: Building 887, Class 2 Areas
 Total Area: 486 sq. m. Total Floor Area: 151 sq. m.
 Grid Spacing for Survey Points: 6 m. X 6 m.

PAGE 1 OF 1



STARTING POINT
FOR SQUARE
SAMPLING GRID
(X20, Y18)

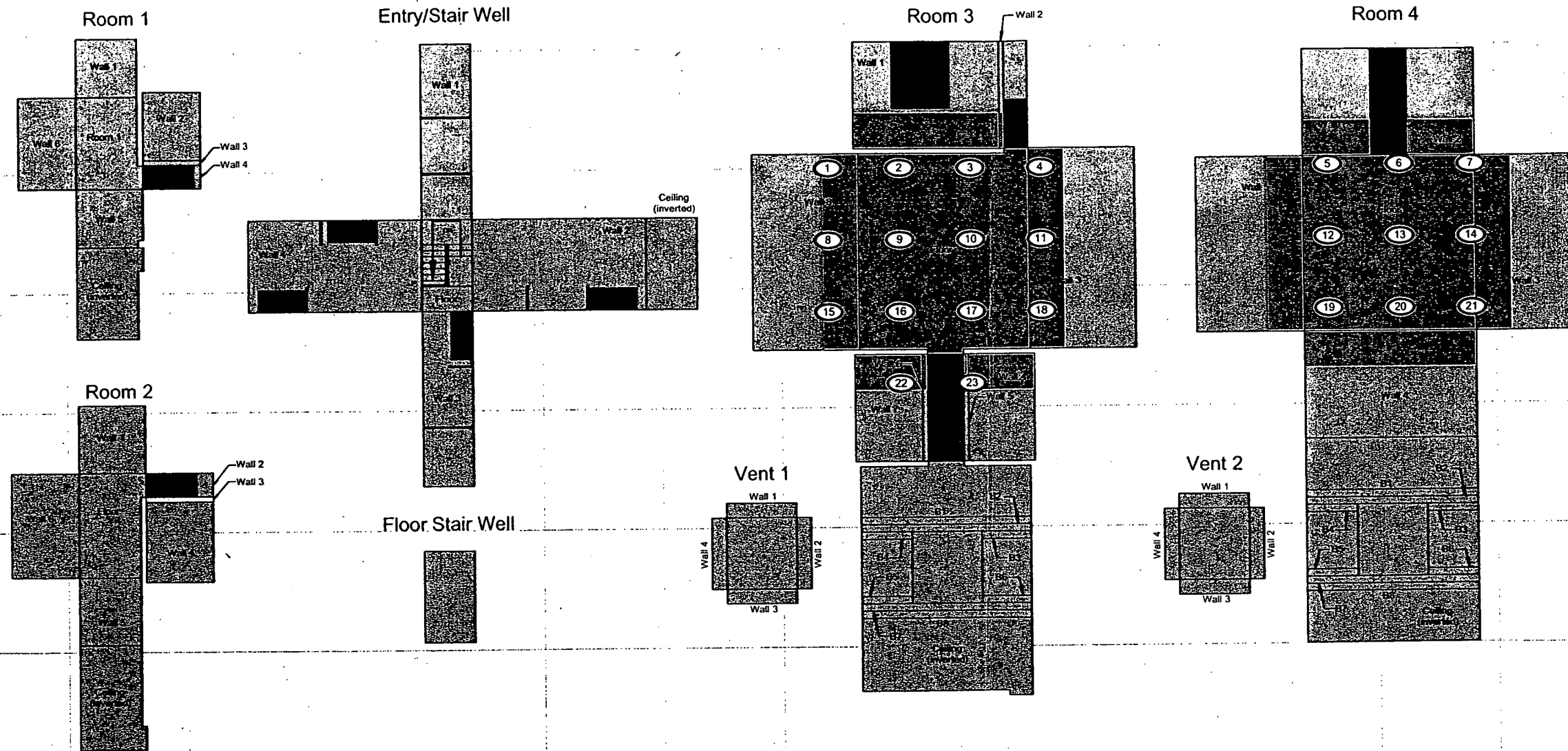


SURVEY MAP LEGEND (1) Smear & TSA Location (2) Smear, TSA & Sample Location (3) Open/Inaccessible Area (4) Area in Another Survey Unit	Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Scan Survey Information Survey Instrument ID #(s) and RCT ID #(s): 1 - 6, 8, 9	<div style="text-align: center;"> N </div> <div style="text-align: center;"> FEET 0 25 METERS 0 8 </div> <p>1 inch = 18 feet 1 grid sq. = 1 sq. m.</p>	<div style="text-align: center;"> U.S. Department of Energy Rocky Flats Environmental Technology Site Prepared by: GIS Dept. 303-966-7707 Prepared for: </div> <div style="display: flex; justify-content: space-around;"> <div> CH2MHILL Communications Group </div> <div> KAISER HILL </div> </div> <p>MAP ID: 03-0568/887002-SC June 2, 2004</p>
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PRE-DEMOLITION SURVEY FOR B881 CLUSTER

Survey Area: 0 Survey Unit: 887001 Classification: 1
 Building: 887
 Survey Unit Description: Building 887, Rooms 3 & 4, Floors & Walls <4 Feet
 Total Area: 194 sq. m. Total Floor Area: 111 sq. m.
 Grid Spacing for Survey Points: 3 m. X 3 m.

PAGE 1 OF 1



BLDG 887 KEY PLAN

STARTING POINT
FOR SQUARE
SAMPLING GRID
(X16, Y10)

SURVEY MAP LEGEND

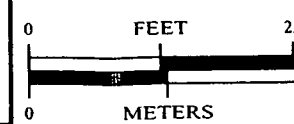
- Smear & TSA Location
- ◆ Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1 - 8, 10 - 20



Scan Area



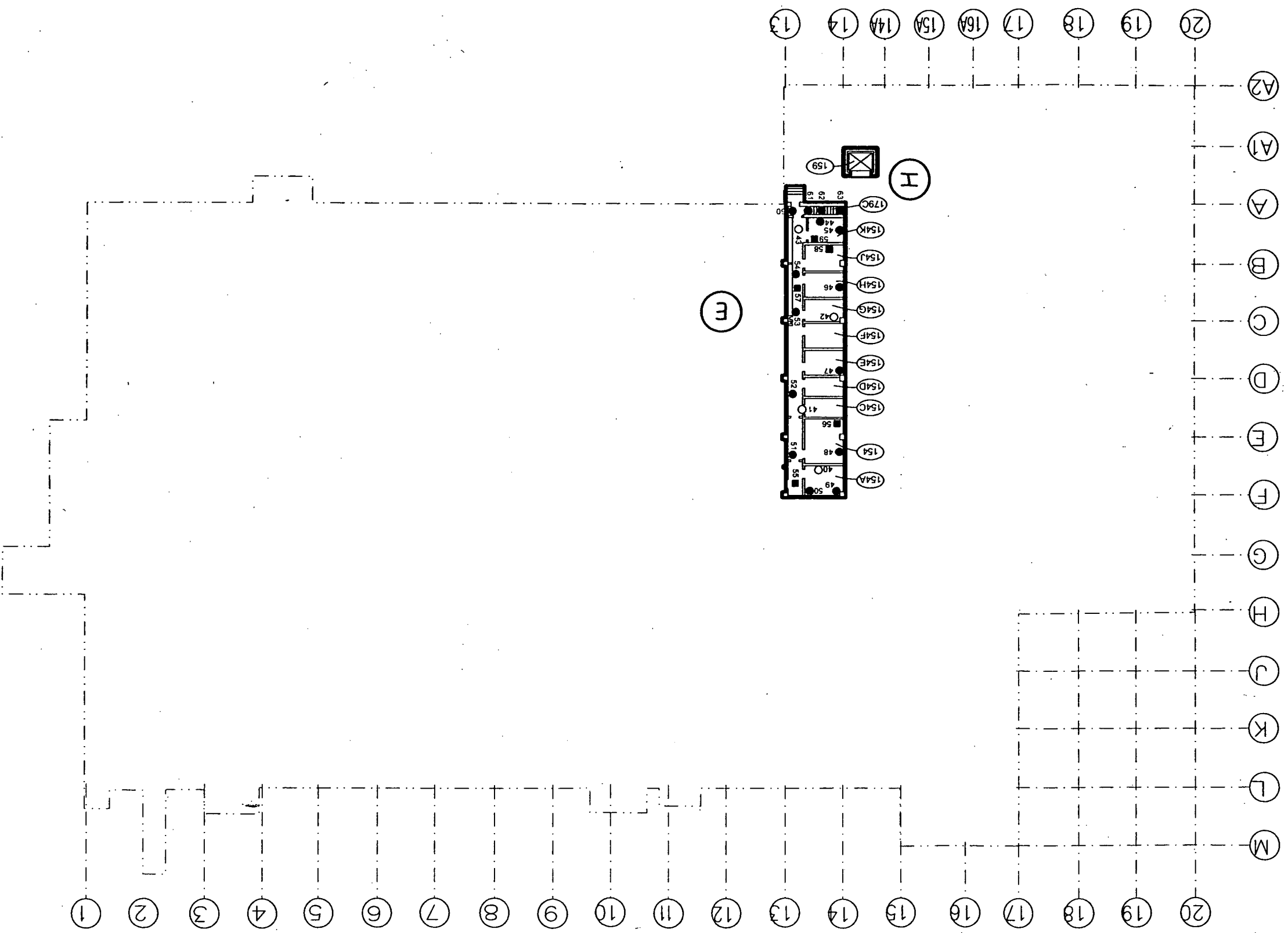
1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy Rocky Flats Environmental Technology Site	
Prepared by: GIS Dept. 303-966-7707	Prepared for:
CH2MHILL Communications Group	KAISER HILL
MAP ID: 03-0568/887001-SC	June 2, 2004

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65

→ **Z**

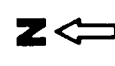


Building 881 First Floor Mezzanine

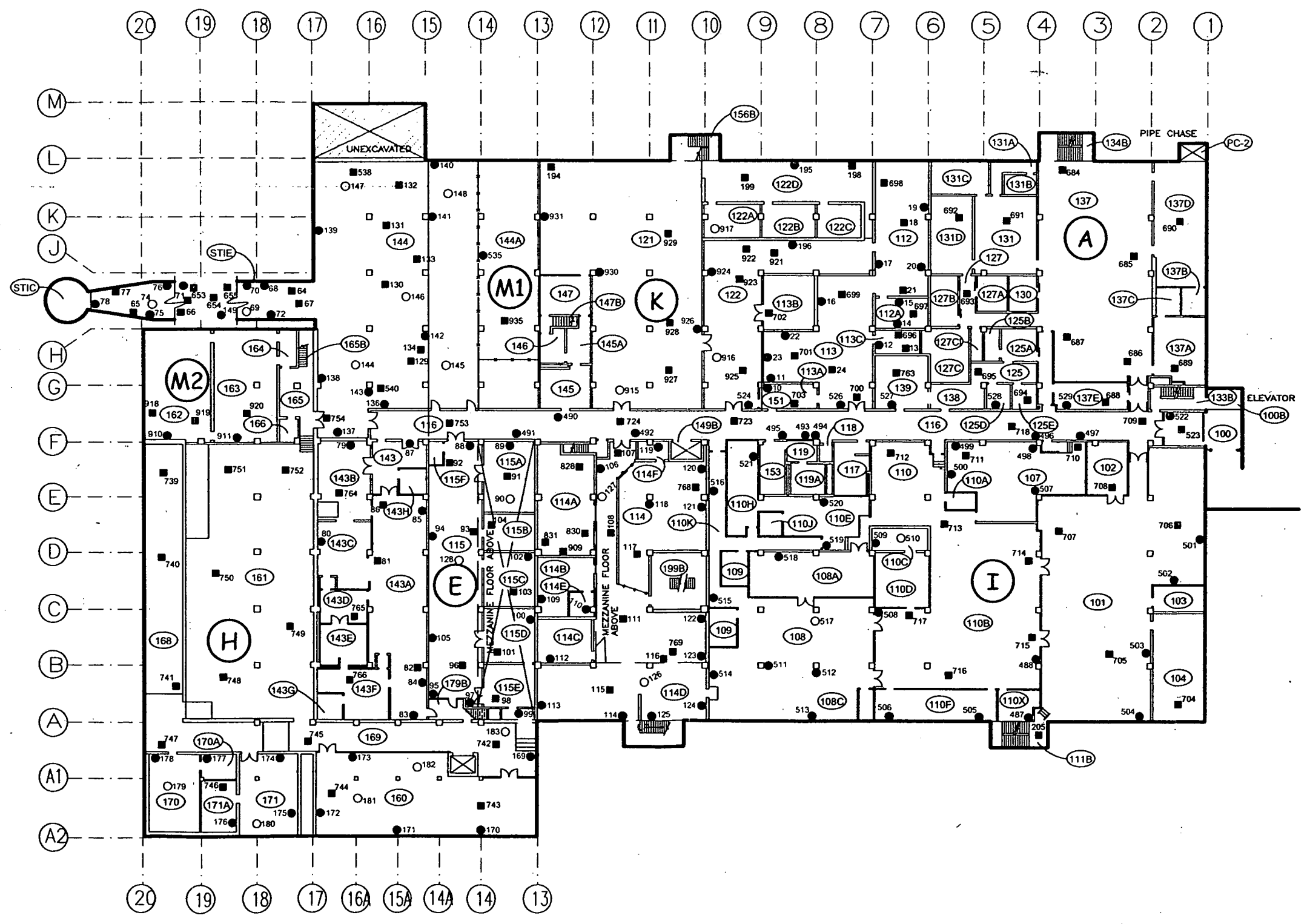
Uranium Survey Units

Transuranic Survey Units

- ☒ Wall
- ☐ Floor
- ☐ Ceiling



Media Sample Map

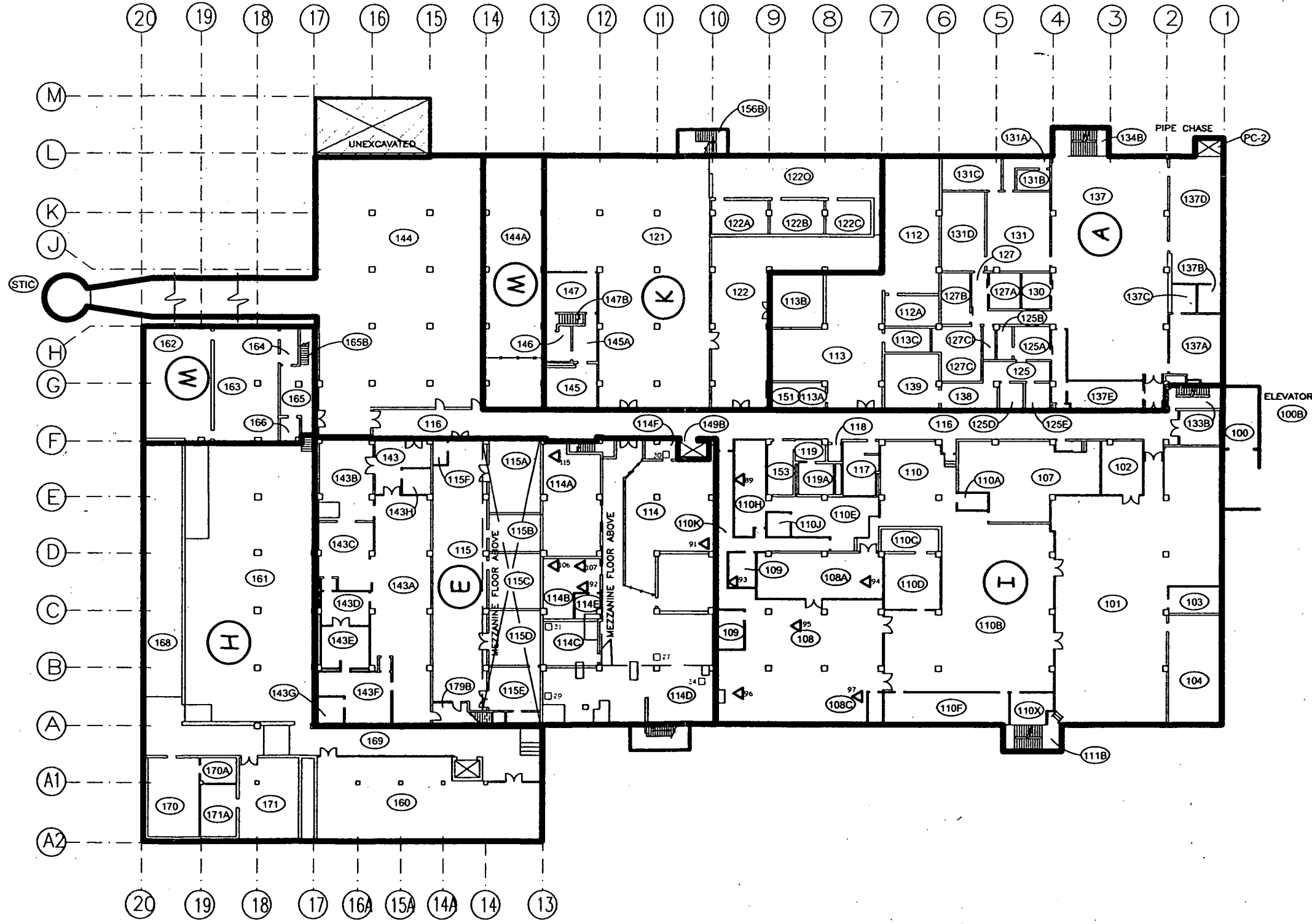


Building 881 First Floor

● Wall
■ Floor
○ Ceiling

Uranium Survey Units
Transuranic Survey Units

STAINLESS STEEL SURVEY & SAMPLE MAP



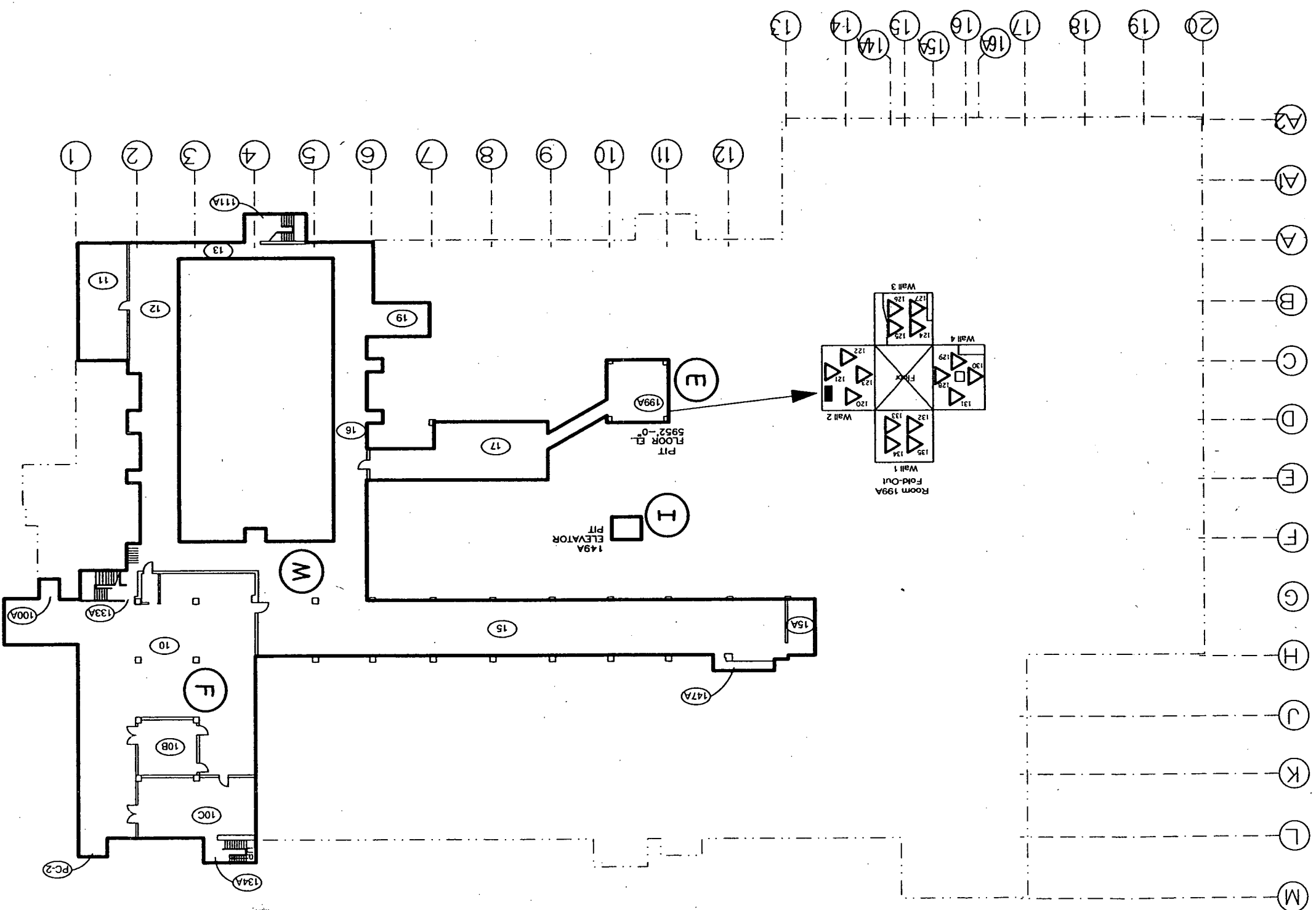
Building 881 First Floor

- = RLC Under SS Floor, TSA/RSA Only
- = RLC Under SS Floor, TSA/RSA / Media Sample
- △ = In-Process, Under SS Floor, TSA/RSA Survey Only
- ▲ = In-Process, Under SS Floor, TSA/RSA / Media Sample

= Stainless Steel Floor

SS = Stainless Steel

STAINLESS STEEL SURVEY & SAMPLE MAP



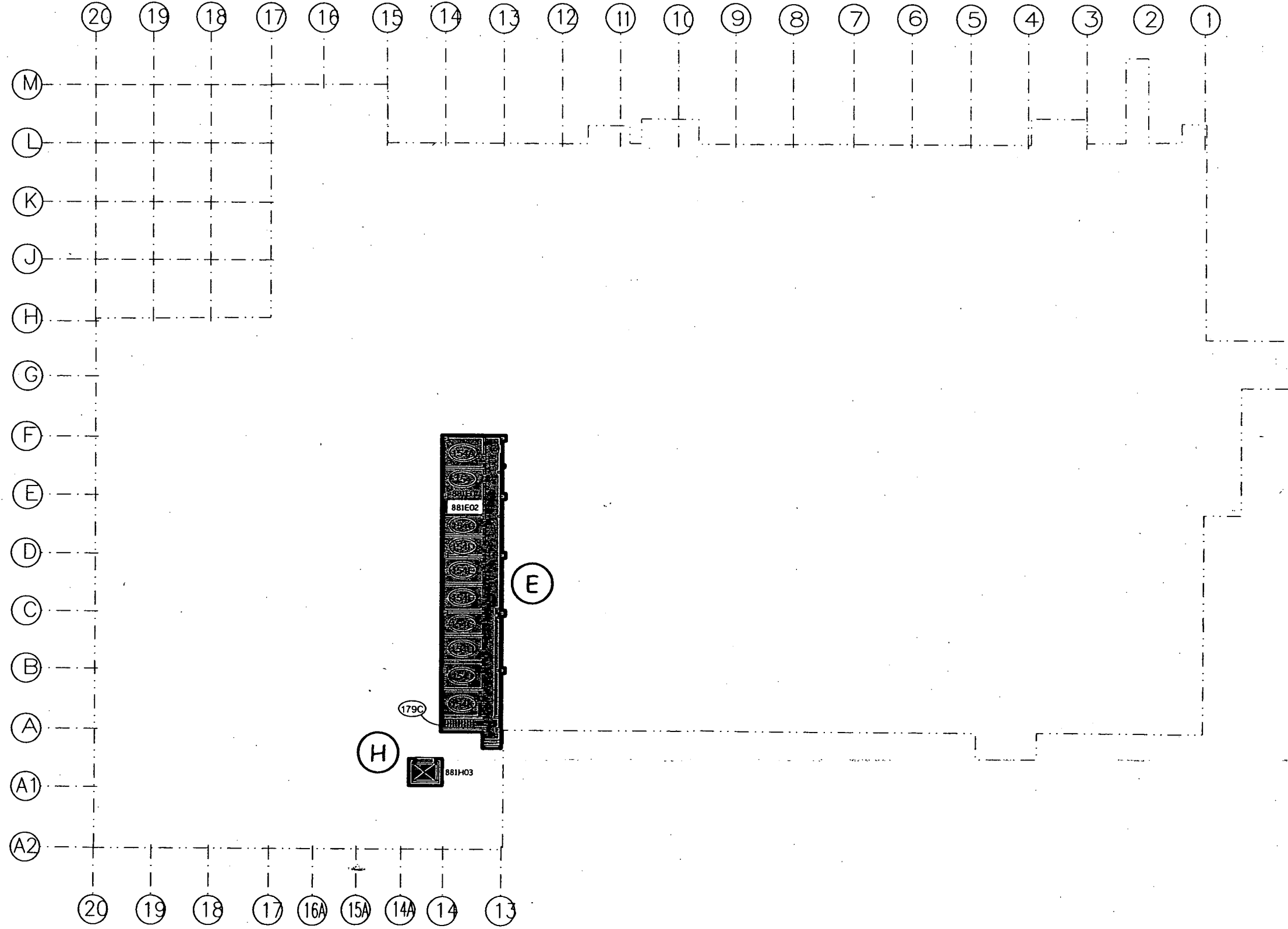
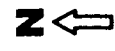
Building 881 Basement

- = RLC, Under SS Floor, TSA/RSA Only
- ▴ = In-Process, Under SS Floor, TSA/RSA Survey Only
- ▾ = In-Process, Under SS Floor, TSA/RSA / Media Sample

≡ Stainless Steel Floor

SS = Stainless Steel

Survey Units

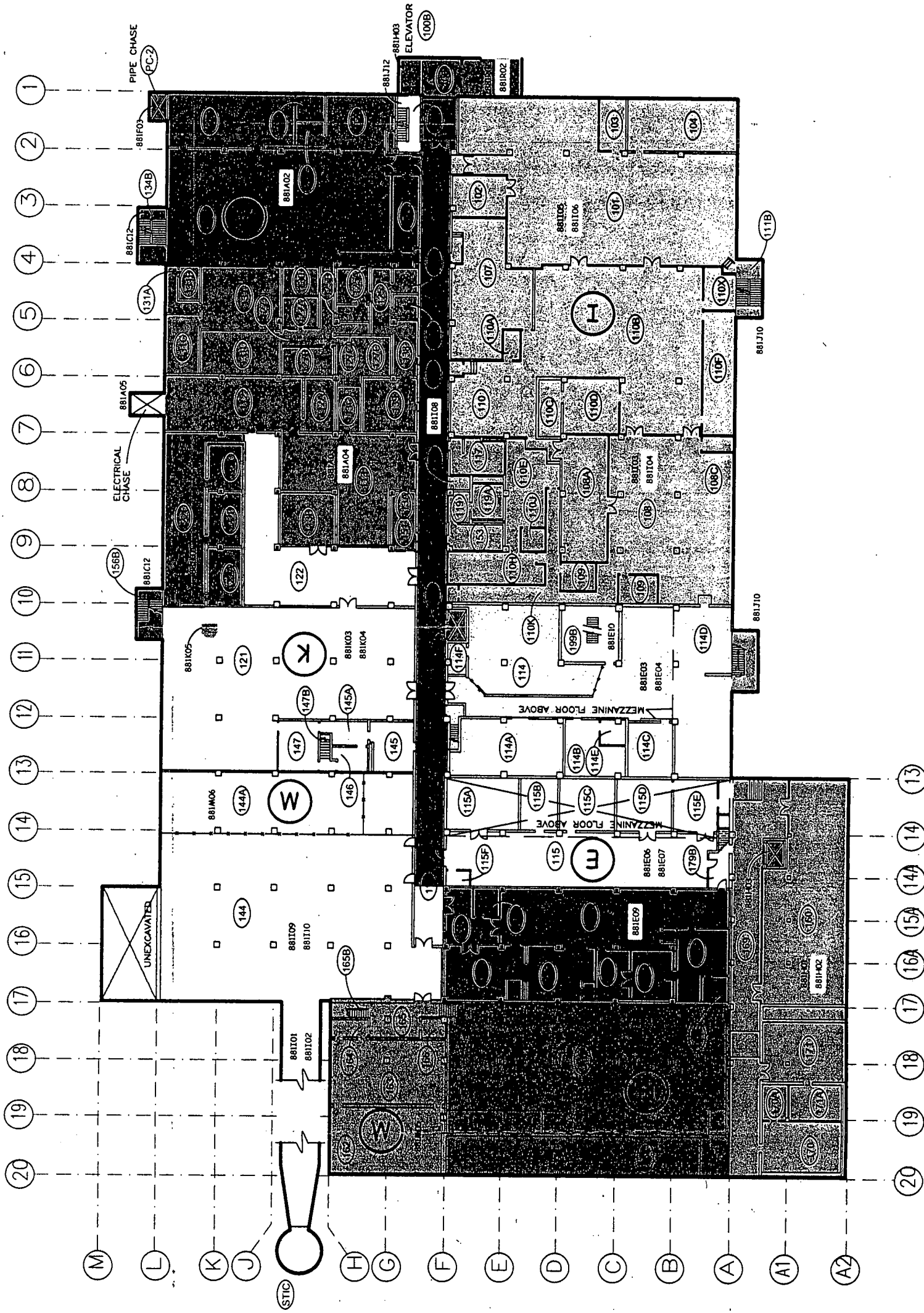


Building 881 First Floor Mezzanine Management Units

Legend:

- Color area indicate the survey unit boundaries
- xxxxxx Six digit characters designate survey unit ID.
- Six digit characters with white background designate survey unit ID, walls, ceilings, & columns.

Survey Units



Building 881 First Floor Management Units

Legend:

- Color area indicate the survey unit boundaries
- xxxxxx Six digit characters designate survey unit ID.
- xxxxxx Six digit characters with white background designate survey unit ID, walls, ceilings, & columns.

Note:

The following survey units were included in the 881 2nd Floor PDSR:
881C12
881D05
881H03
881J10
881J12
881R01
881R02

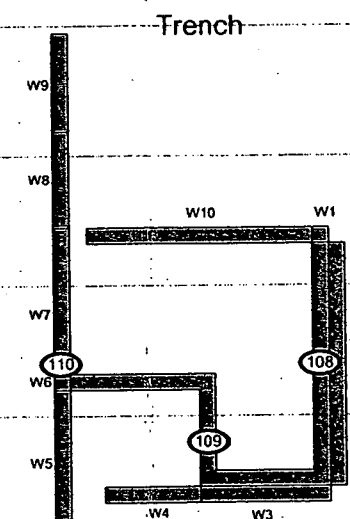
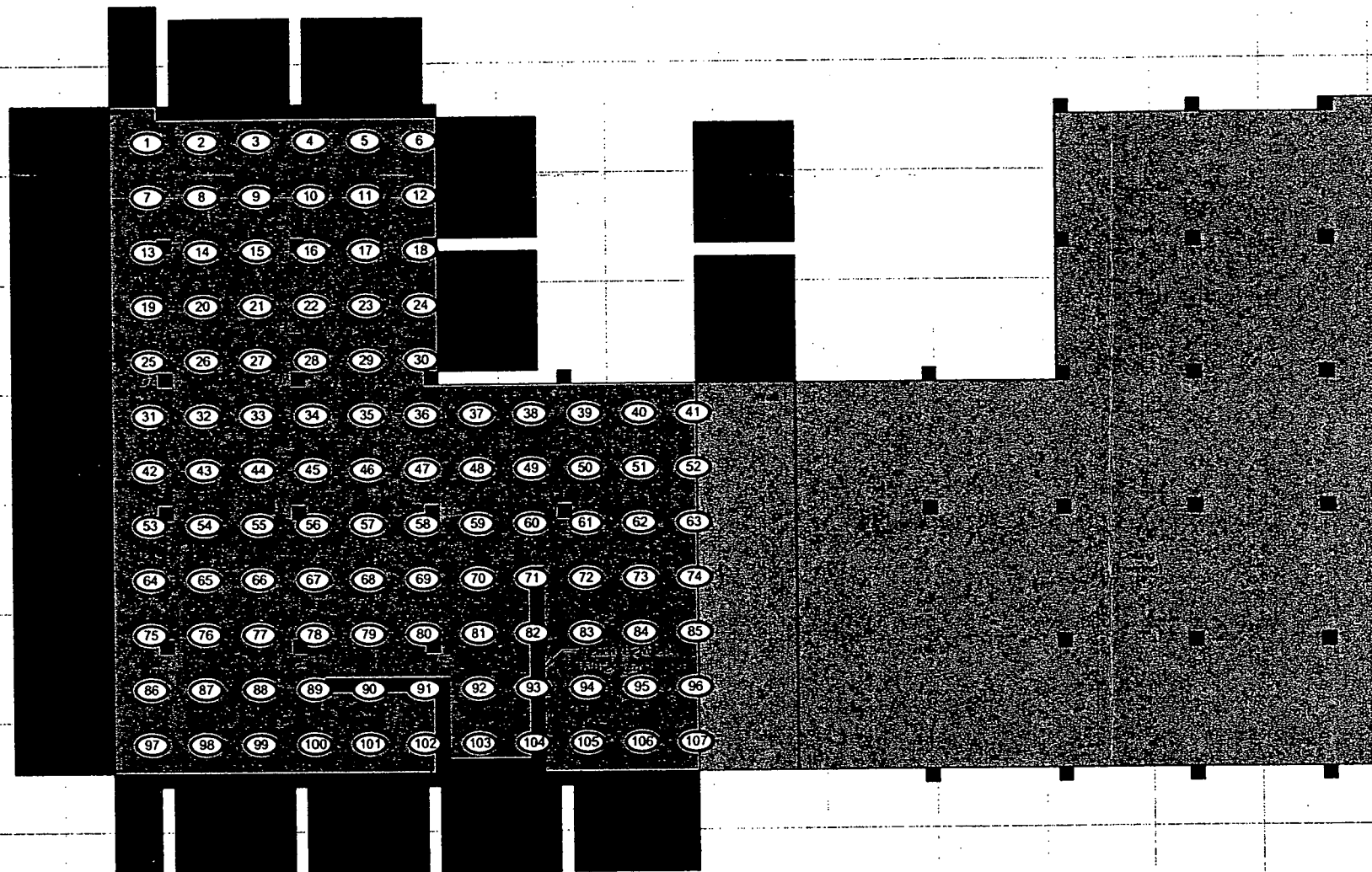
The following survey unit was included in the 881 Basement PDSR:
881F03

PRE-DEMOLITION SURVEY FOR B881

Survey Area: A Survey Unit: 881A03 Classification: 2
 Building: 881
 Survey Unit Description: Building 881, Management Unit A, Rooms 112, 113, 125, 127, 130, 138, 139, 151 & Floor
 Total Area: 658 sq. m. Total Floor Area: 658 sq. m.
 Grid Spacing for Survey Points: 2.5 m. X 2.5 m.

PAGE 1 OF 1

Rooms 112 & 113



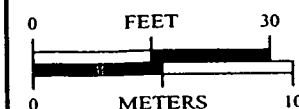
STARTING POINT
FOR SQUARE
SAMPLING GRID
(X9, Y9)

SURVEY MAP LEGEND

- Smear & TSA Location
- ◇ Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1, 2, 3, 10



1 inch = 24 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



MAP ID: 03-0568/881A03-SC

June 4, 2004

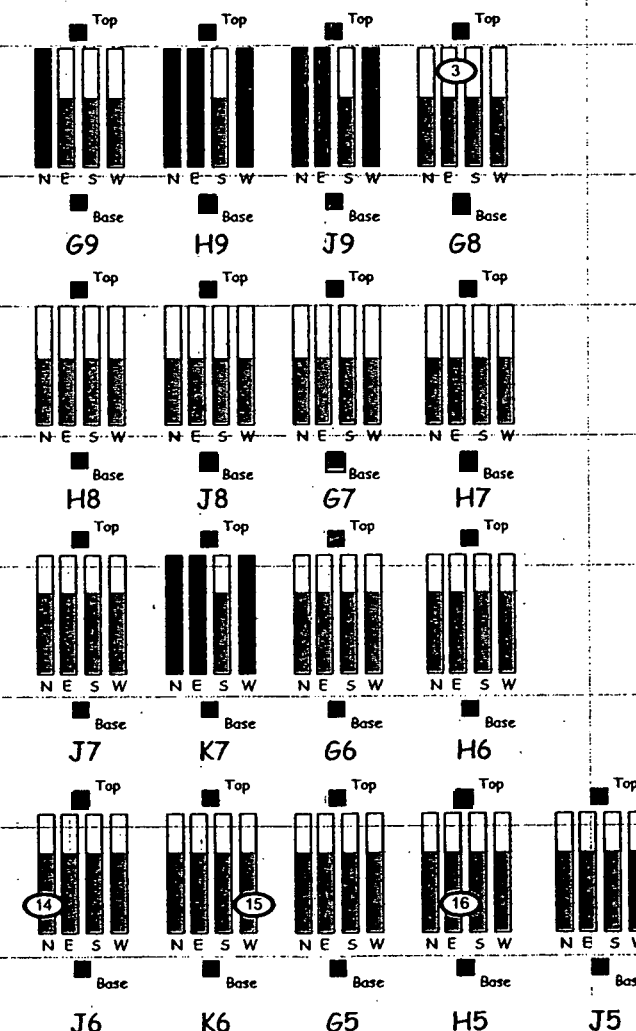
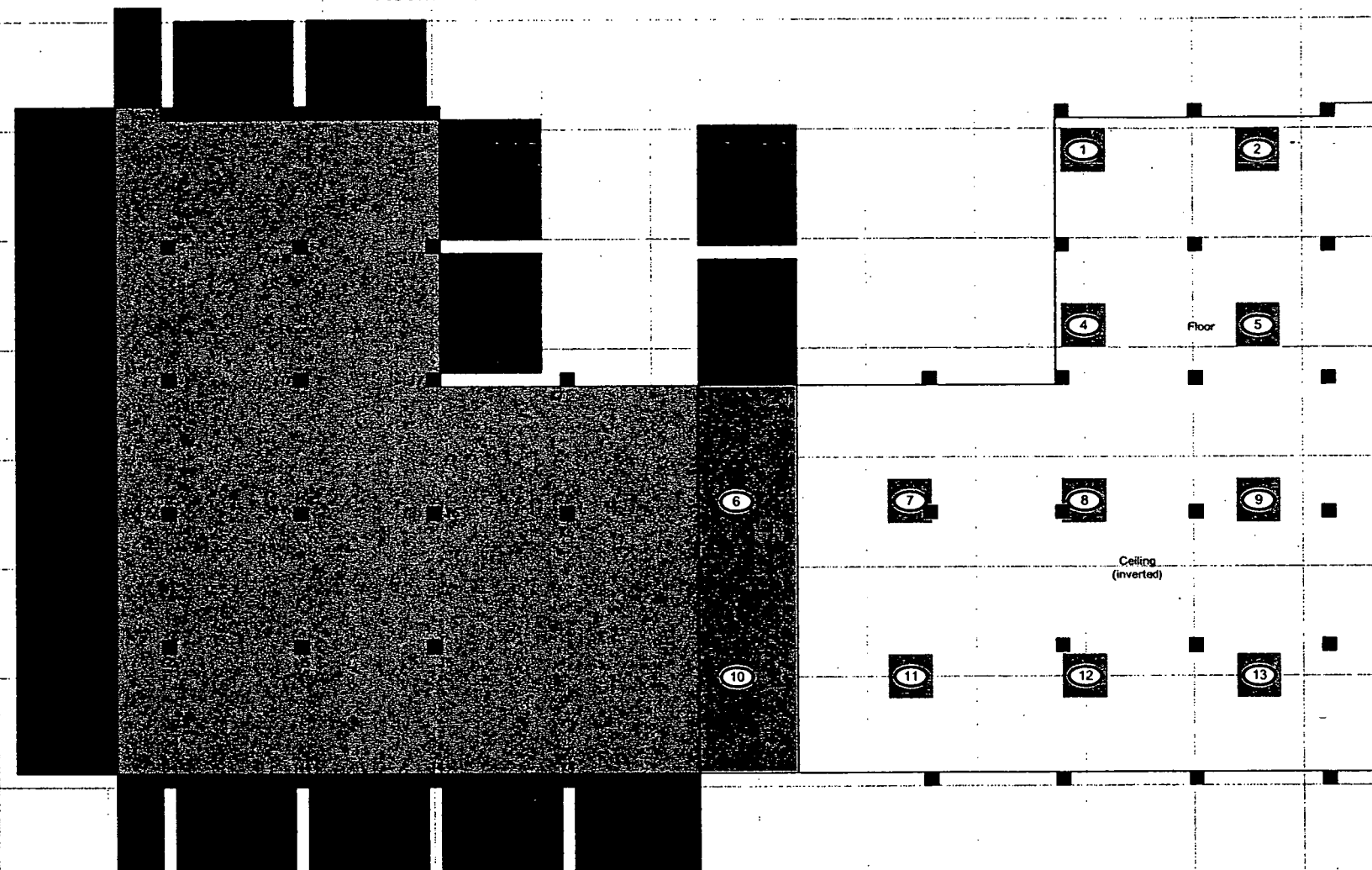
Best Available Copy

PRE-DEMOLITION SURVEY FOR B881

Survey Area: A Survey Unit: 881A04 Classification: 2
 Building: 881
 Survey Unit Description: Building 881, Management Unit A, Rooms 112, 113, 125,
 127, 130, 138, 139, 151, Walls & Ceiling
 Total Area: 907 sq. m. Total Floor Area: 658 sq. m.
 Grid Spacing for Survey Points: 8 m. X 8 m.

PAGE 1 OF 1

Room 113



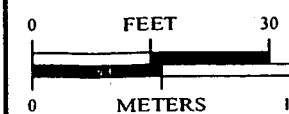
STARTING POINT
FOR SQUARE
SAMPLING GRID
(X7, Y14)

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1, 2, 3, 7



1 inch = 24 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy Rocky Flats Environmental Technology Site	
Prepared by: GIS Dept. 303-966-7707	Prepared for:
CH2MHILL Communications Group	KAISER HILL
MAP ID: 03-0568/881A04-SC	June 4, 2004

Scan Area

143

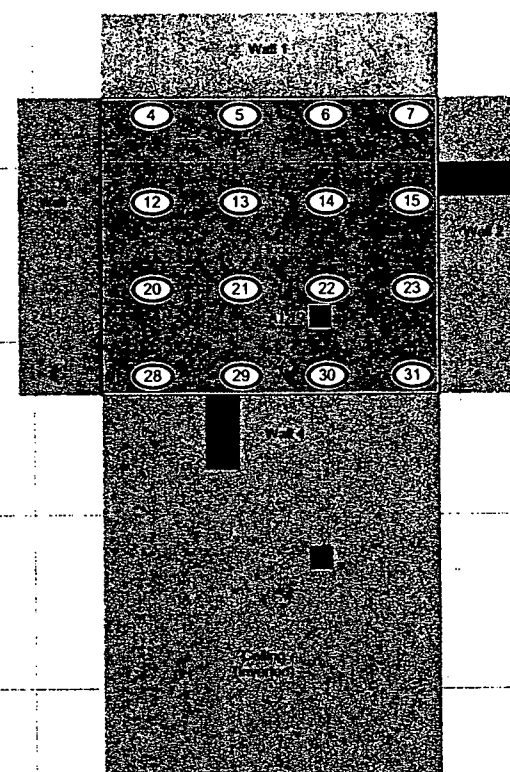
Best Available Copy

PRE-DEMOLITION SURVEY FOR B881 CLUSTER

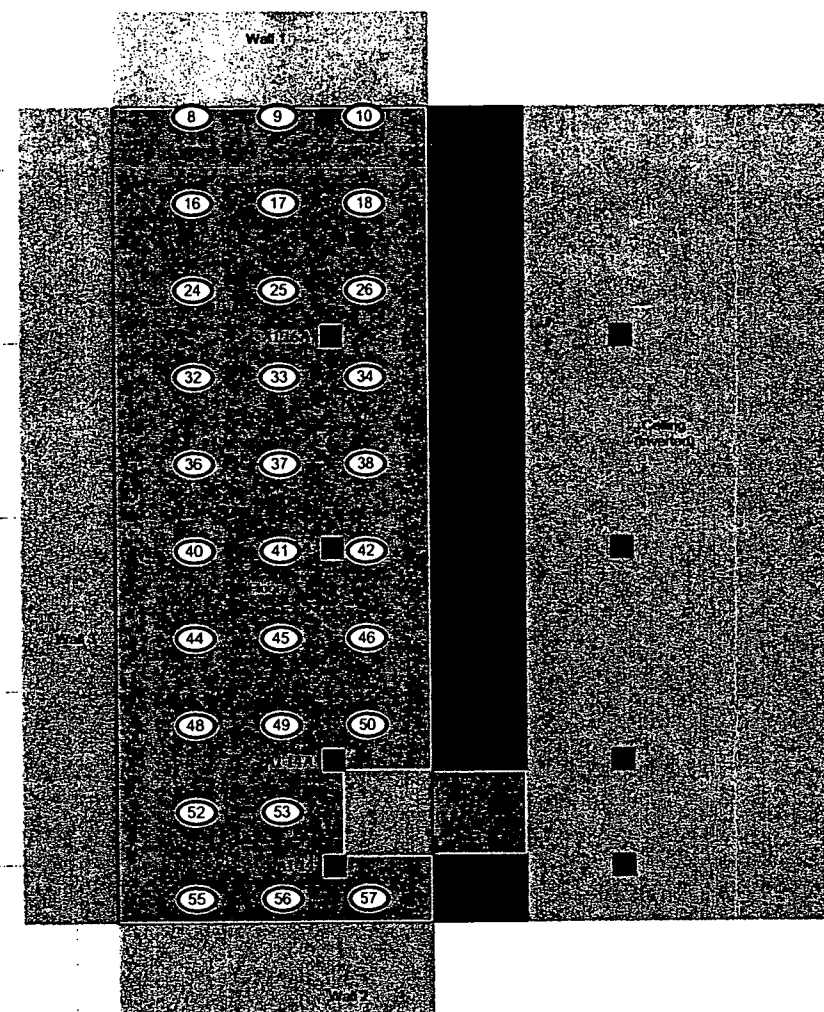
Survey Area: H Survey Unit: 881H01 Classification: 1
 Building: 881
 Survey Unit Description: Building 881, Management Unit U, Rooms 160, 169, 170 & 171
 Floors
 Total Area: 509 sq. m. Total Floor Area: 509 sq. m.
 Grid Spacing for Survey Points: 2.5 m. X 2.5 m.

PAGE 1 OF 1

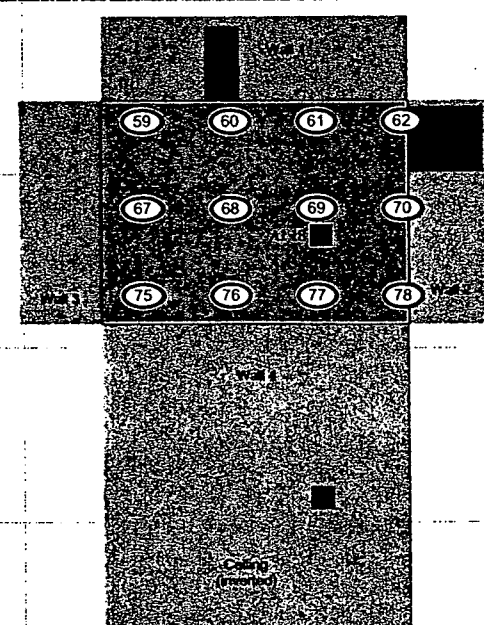
Room 170



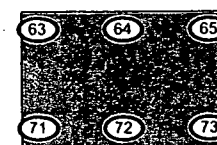
Room 160



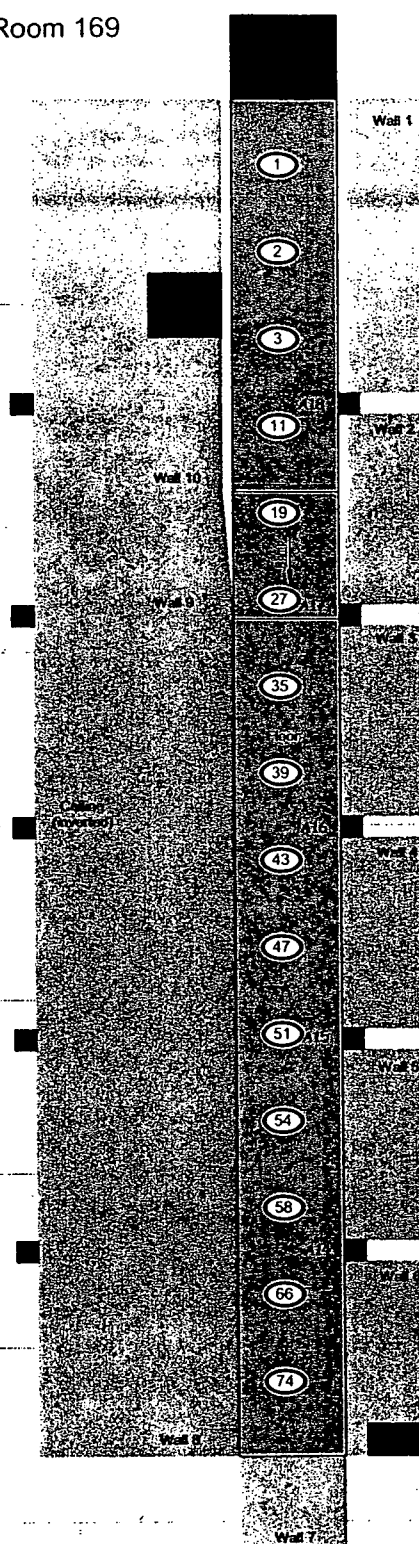
Room 171



Ramp



Room 169



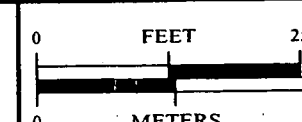
STARTING POINT
FOR SQUARE
SAMPLING GRID
(X21, Y9)

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1, 2, 5, 6



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site
 Prepared by: GIS Dept. 303-966-7707 Prepared for:
 CH2MHILL
 Communications Group
 MAP ID: 03-0568/881H01-SC April 14, 2004

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